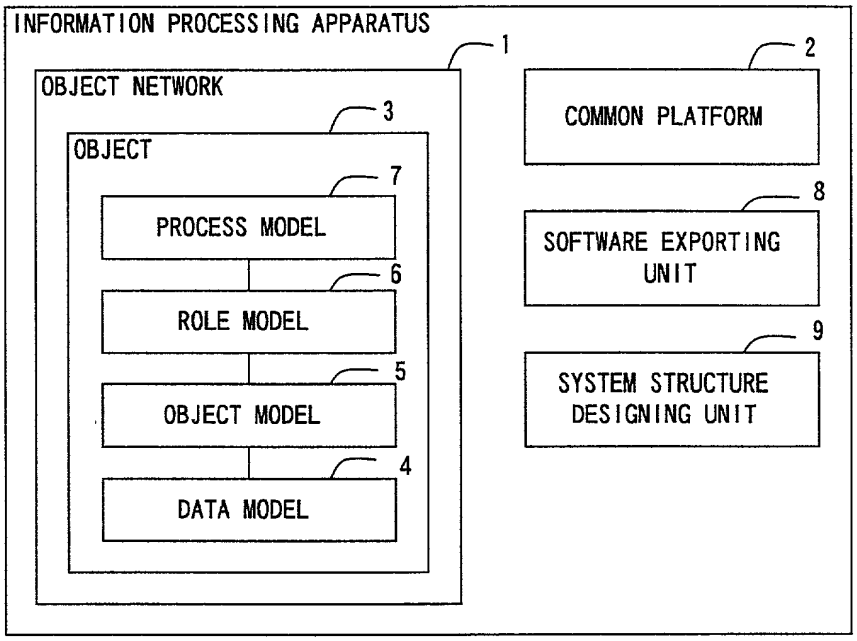

INFORMATION PROCESSING APPARATUS
1
OBJECT NETWORK
3
OBJECT
7
PROCESS MODEL
6
ROLE MODEL
5
OBJECT MODEL
4
DATA MODEL
2
COMMON PLATFORM
8
SOFTWARE EXPORTING UNIT
9
SYSTEM STRUCTURE DESIGNING UNIT

FIG. 1

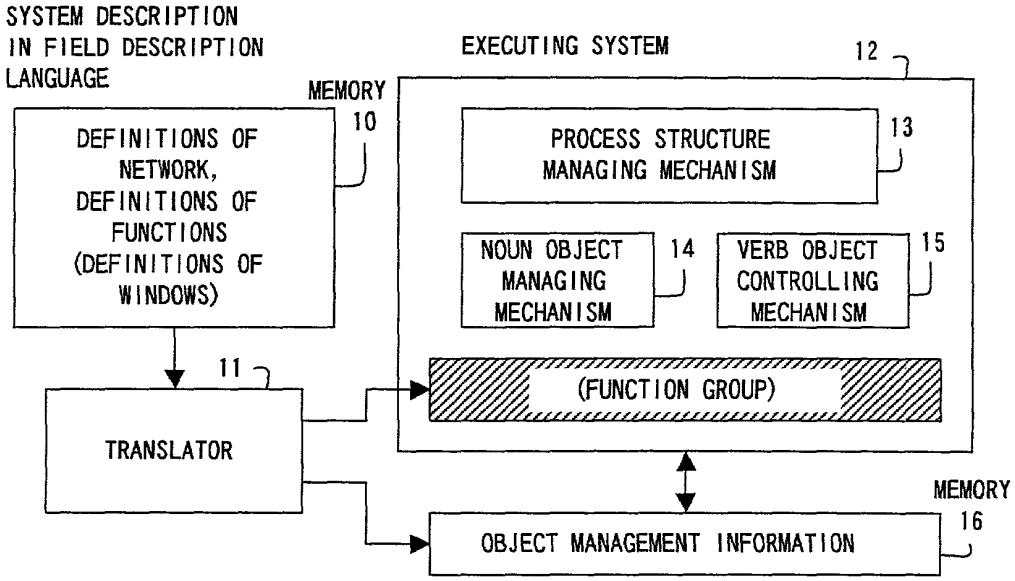
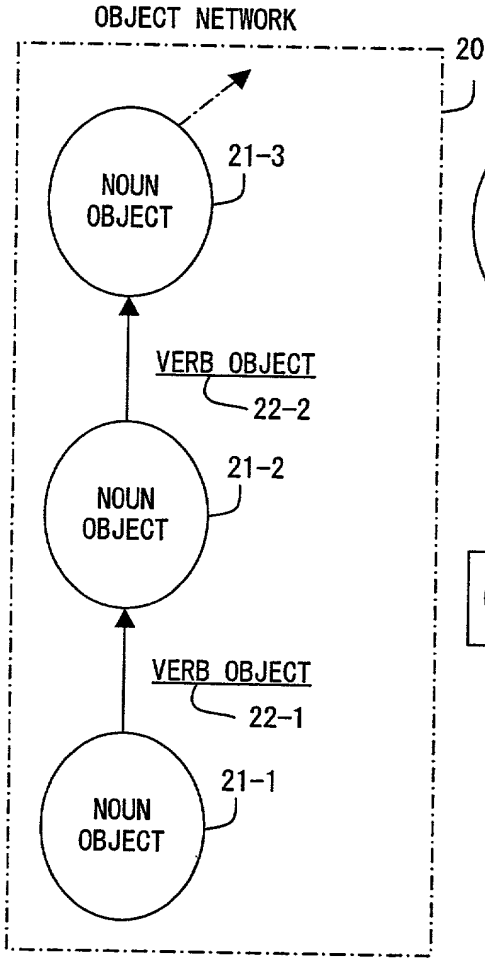
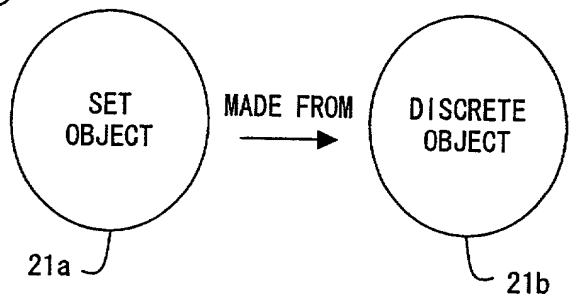

SYSTEM DESCRIPTION
IN FIELD DESCRIPTION
LANGUAGE
MEMORY
10
DEFINITIONS OF
NETWORK,
DEFINITIONS OF
FUNCTIONS
(DEFINITIONS OF
WINDOWS)
11
TRANSLATOR
EXECUTING SYSTEM
12
PROCESS STRUCTURE
MANAGING MECHANISM
13
NOUN OBJECT
MANAGING
MECHANISM
14
VERB OBJECT
CONTROLLING
MECHANISM
15
(FUNCTION GROUP)
MEMORY
16
OBJECT MANAGEMENT INFORMATION

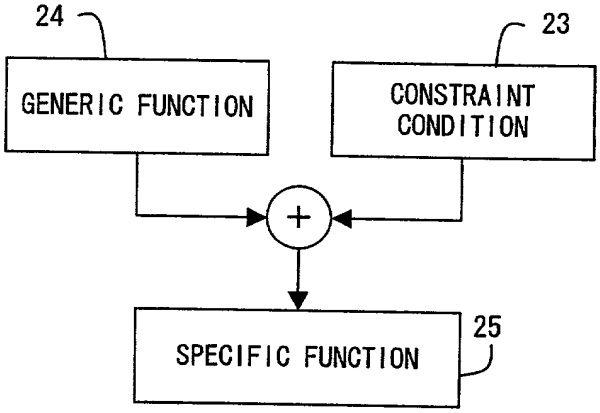
FIG. 2



F I G. 3 A



F I G. 3 B



F I G. 3 C

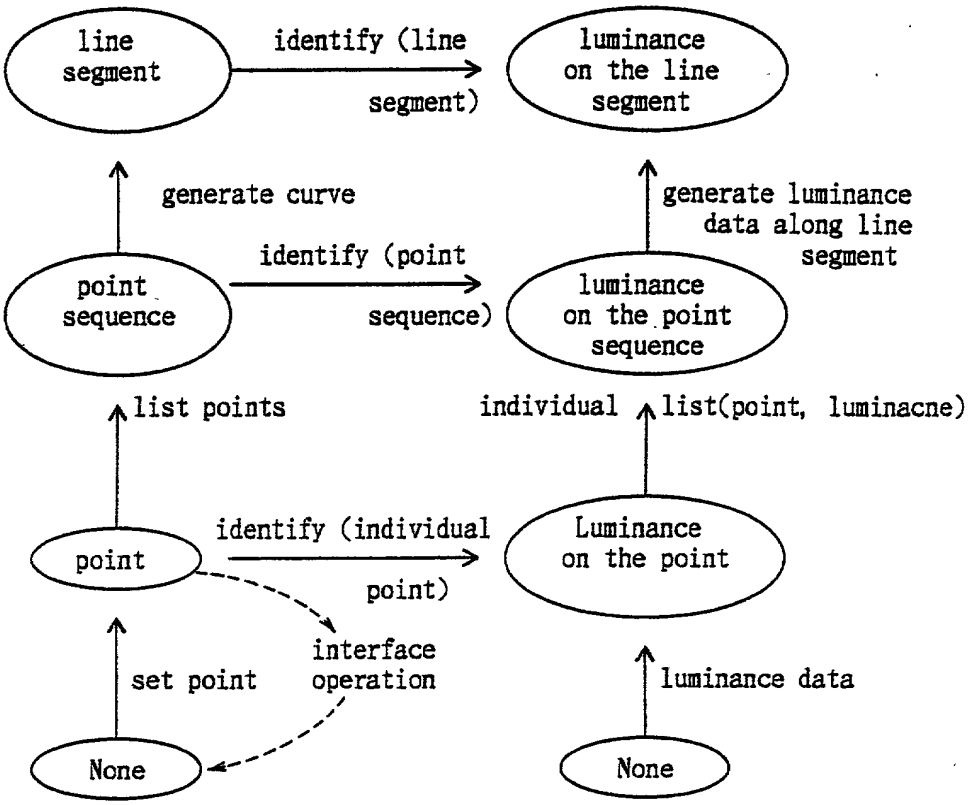

line segment
identify (line segment)
luminance on the line segment
generate curve
generate luminance data along line segment
point sequence
identify (point sequence)
luminance on the point sequence
list points
individual
list(point, luminacne)
point
identify (individual point)
Luminance on the point
interface operation
set point
luminance data
None
None

FIG. 4A

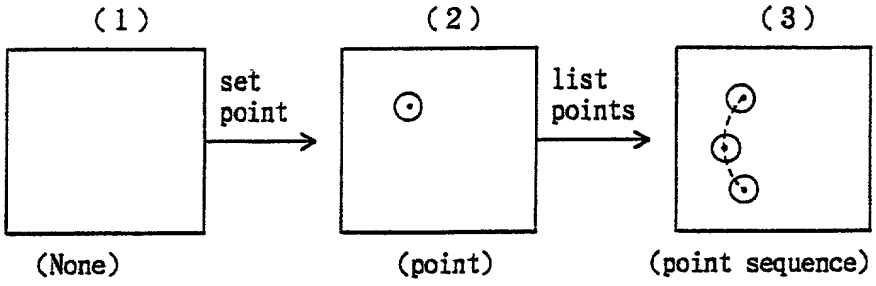

(1)
(2)
(3)
set point
list points
(None)
(point)
(point sequence)

FIG. 4B

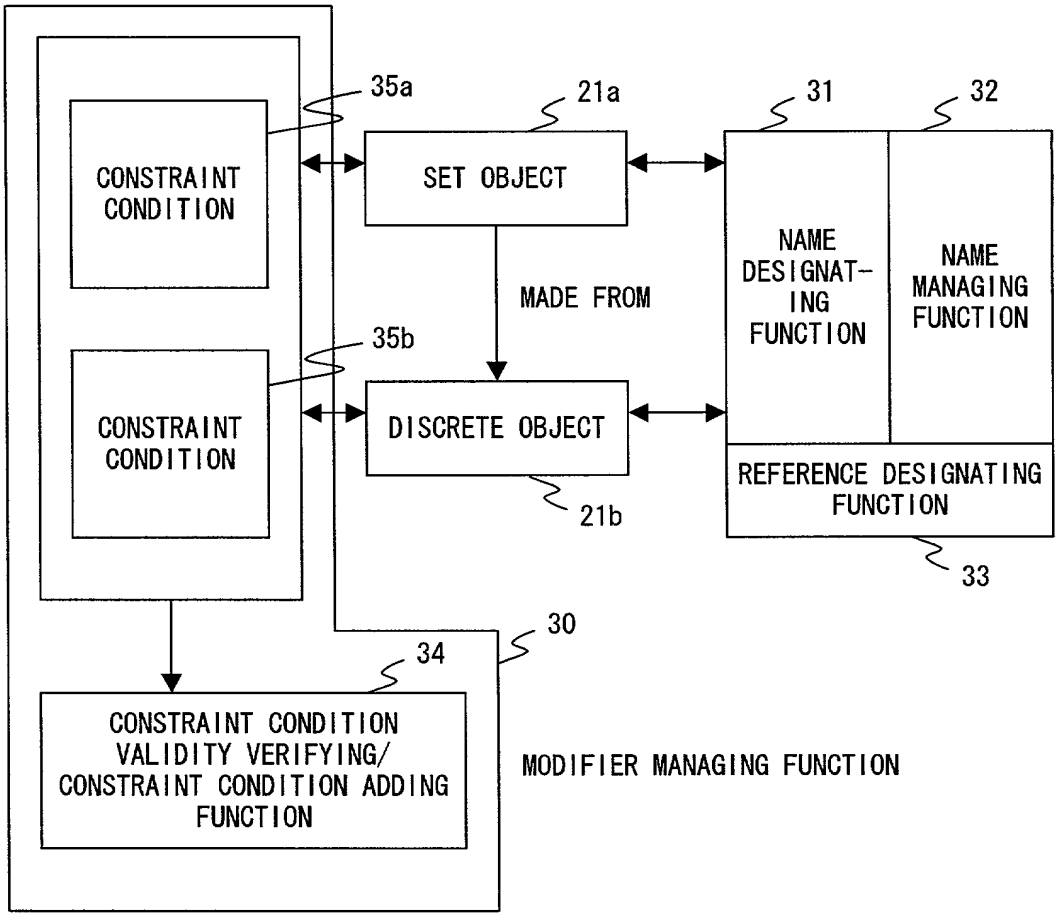

35a
21a
31
32
CONSTRAINT CONDITION
SET OBJECT
NAME DESIGNAT-ING FUNCTION
NAME MANAGING FUNCTION
MADE FROM
35b
CONSTRAINT CONDITION
DISCRETE OBJECT
REFERENCE DESIGNATING FUNCTION
21b
33
30
34
CONSTRAINT CONDITION VALIDITY VERIFYING/ CONSTRAINT CONDITION ADDING FUNCTION
MODIFIER MANAGING FUNCTION

FIG. 5

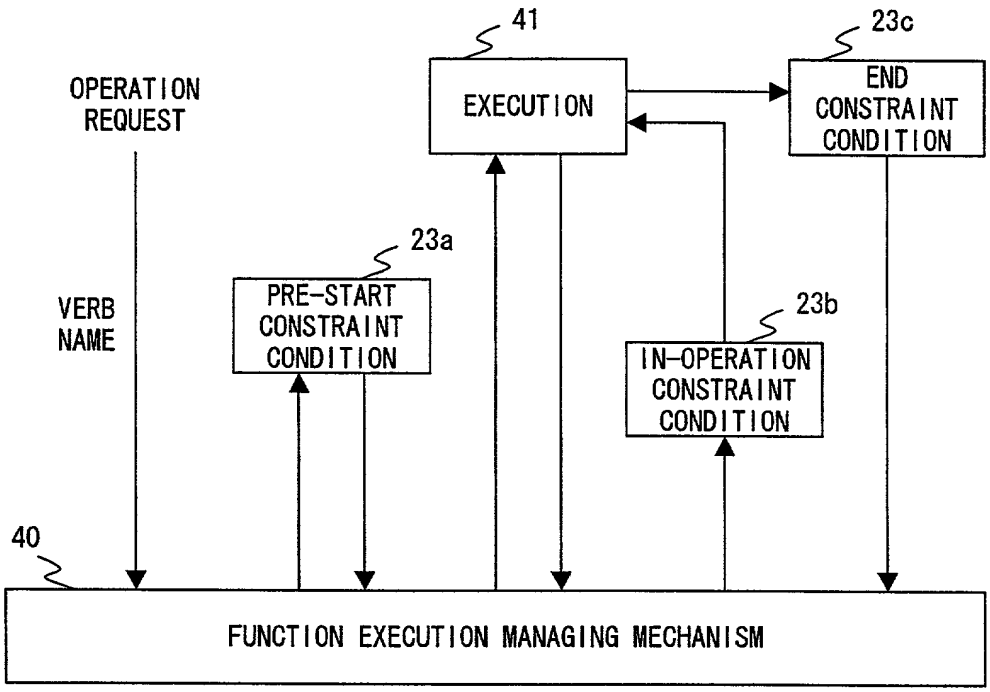

41
23c
OPERATION REQUEST
EXECUTION
END CONSTRAINT CONDITION
23a
VERB NAME
PRE-START CONSTRAINT CONDITION
23b
IN-OPERATION CONSTRAINT CONDITION
40
FUNCTION EXECUTION MANAGING MECHANISM

FIG. 6

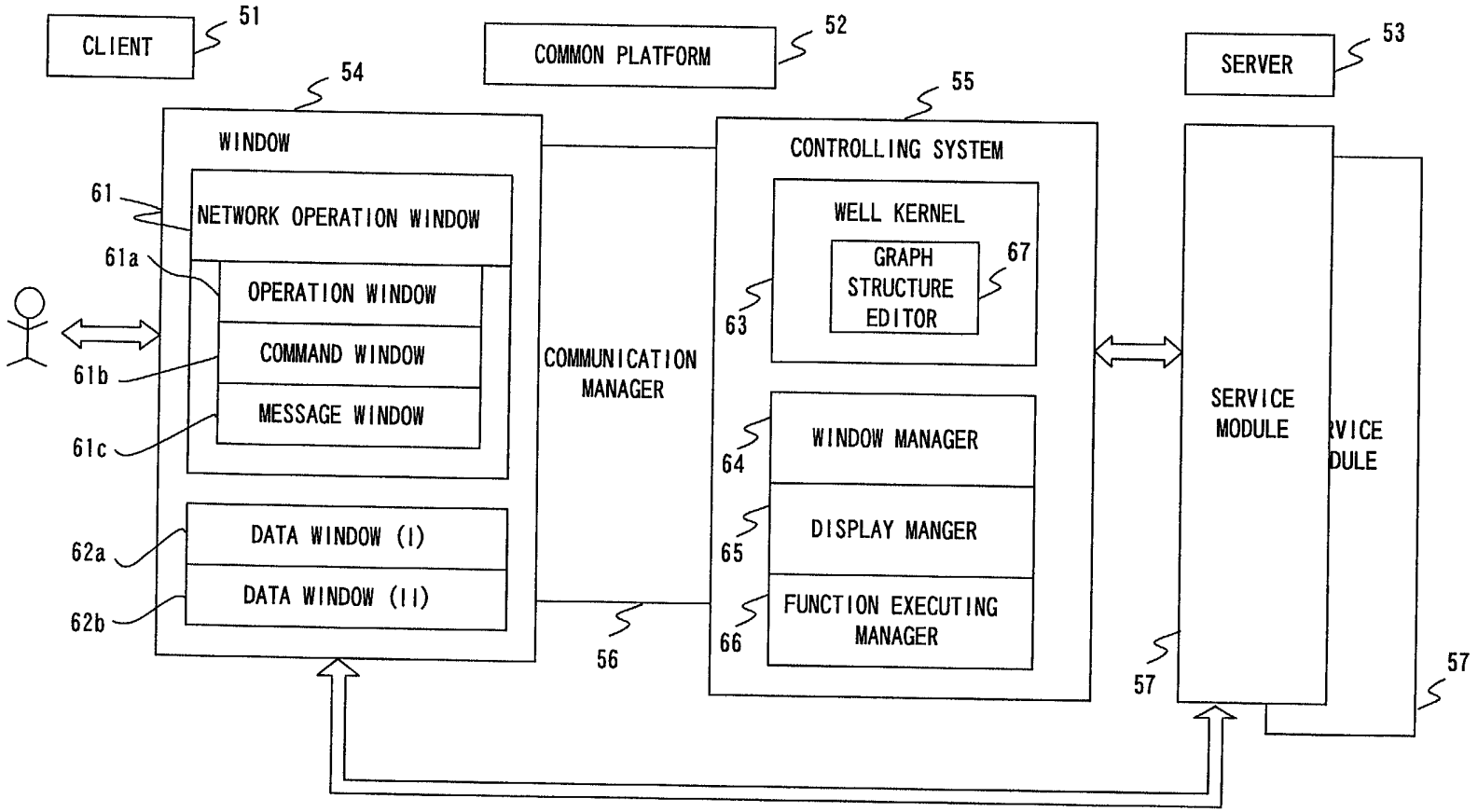

CLIENT
51
COMMON PLATFORM
52
SERVER
53
54
WINDOW
55
CONTROLLING SYSTEM
61
NETWORK OPERATION WINDOW
61a
OPERATION WINDOW
COMMAND WINDOW
61b
MESSAGE WINDOW
61c
WELL KERNEL
GRAPH STRUCTURE EDITOR
67
63
COMMUNICATION MANAGER
64
WINDOW MANAGER
65
DISPLAY MANGER
66
FUNCTION EXECUTING MANAGER
SERVICE MODULE
62a
DATA WINDOW (I)
62b
DATA WINDOW (II)
56
57
57

FIG. 7

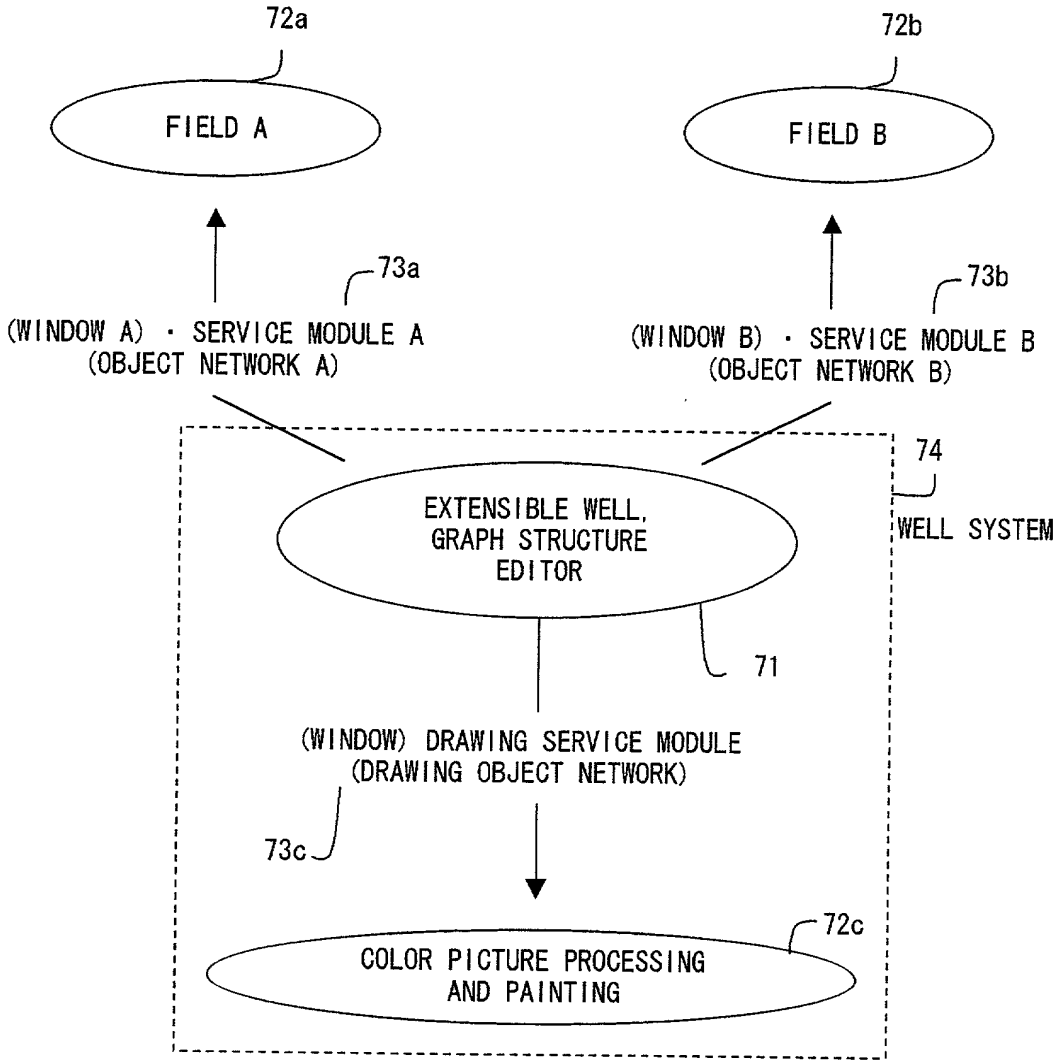

72a
FIELD A
72b
FIELD B
73a
(WINDOW A) · SERVICE MODULE A
(OBJECT NETWORK A)
73b
(WINDOW B) · SERVICE MODULE B
(OBJECT NETWORK B)
74
WELL SYSTEM
EXTENSIBLE WELL,
GRAPH STRUCTURE
EDITOR
71
(WINDOW) DRAWING SERVICE MODULE
(DRAWING OBJECT NETWORK)
73c
72c
COLOR PICTURE PROCESSING
AND PAINTING

FIG. 8

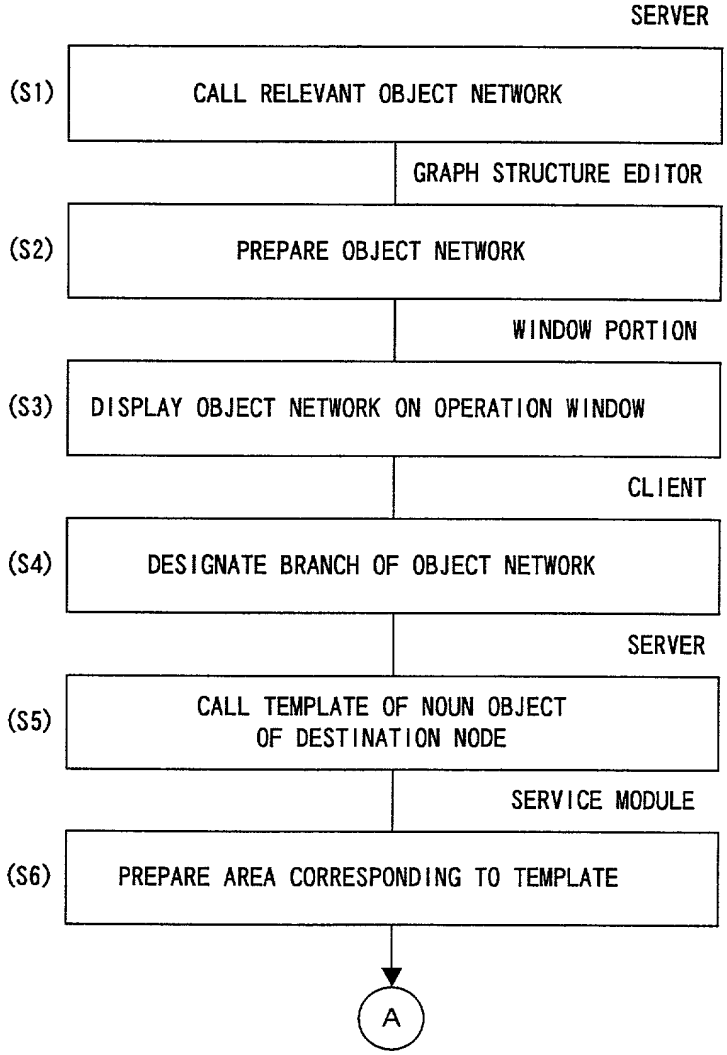

SERVER
(S1)
CALL RELEVANT OBJECT NETWORK
GRAPH STRUCTURE EDITOR
(S2)
PREPARE OBJECT NETWORK
WINDOW PORTION
(S3)
DISPLAY OBJECT NETWORK ON OPERATION WINDOW
CLIENT
(S4)
DESIGNATE BRANCH OF OBJECT NETWORK
SERVER
(S5)
CALL TEMPLATE OF NOUN OBJECT OF DESTINATION NODE
SERVICE MODULE
(S6)
PREPARE AREA CORRESPONDING TO TEMPLATE
A

FIG. 9

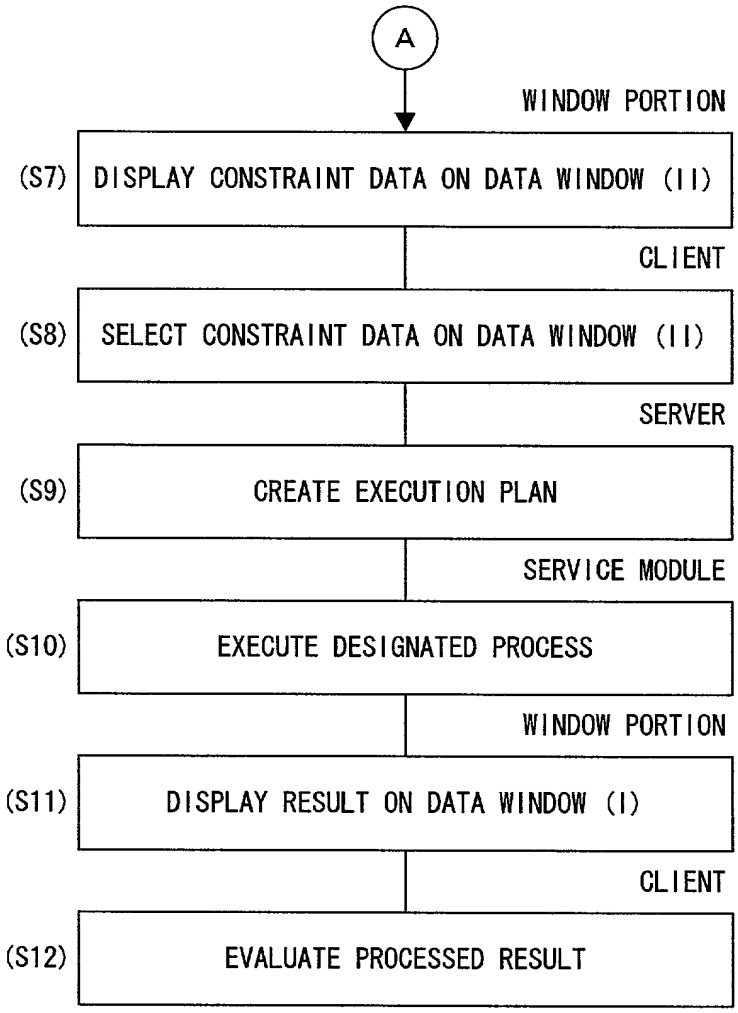

A
WINDOW PORTION
(S7) DISPLAY CONSTRAINT DATA ON DATA WINDOW (II)
CLIENT
(S8) SELECT CONSTRAINT DATA ON DATA WINDOW (II)
SERVER
(S9) CREATE EXECUTION PLAN
SERVICE MODULE
(S10) EXECUTE DESIGNATED PROCESS
WINDOW PORTION
(S11) DISPLAY RESULT ON DATA WINDOW (I)
CLIENT
(S12) EVALUATE PROCESSED RESULT

FIG. 10

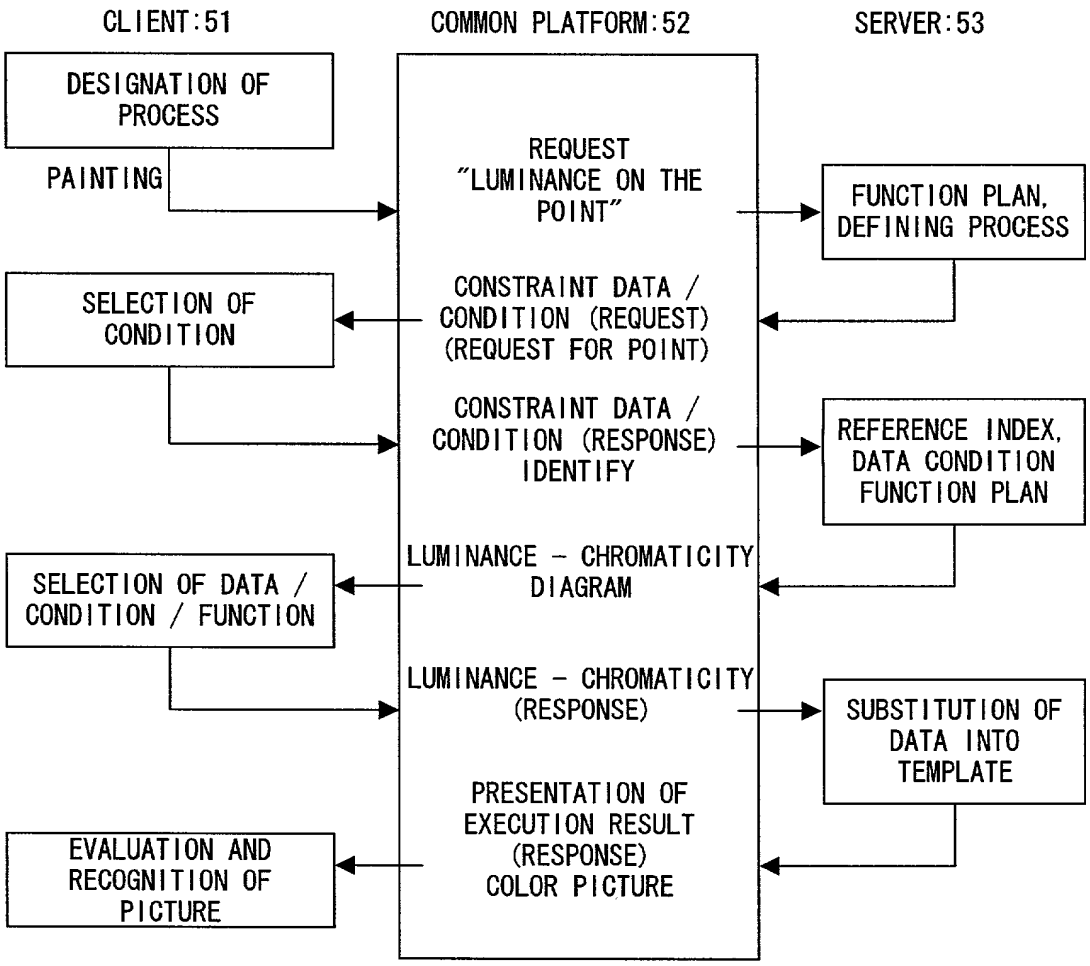

CLIENT:51
COMMON PLATFORM:52
SERVER:53
DESIGNATION OF PROCESS
PAINTING
REQUEST "LUMINANCE ON THE POINT"
FUNCTION PLAN, DEFINING PROCESS
SELECTION OF CONDITION
CONSTRAINT DATA / CONDITION (REQUEST) (REQUEST FOR POINT)
CONSTRAINT DATA / CONDITION (RESPONSE) IDENTIFY
REFERENCE INDEX, DATA CONDITION FUNCTION PLAN
SELECTION OF DATA / CONDITION / FUNCTION
LUMINANCE - CHROMATICITY DIAGRAM
LUMINANCE - CHROMATICITY (RESPONSE)
SUBSTITUTION OF DATA INTO TEMPLATE
EVALUATION AND RECOGNITION OF PICTURE
PRESENTATION OF EXECUTION RESULT (RESPONSE) COLOR PICTURE

FIG. 11

index	X	Y	attributes for Point(X, Y)

FIG. 12

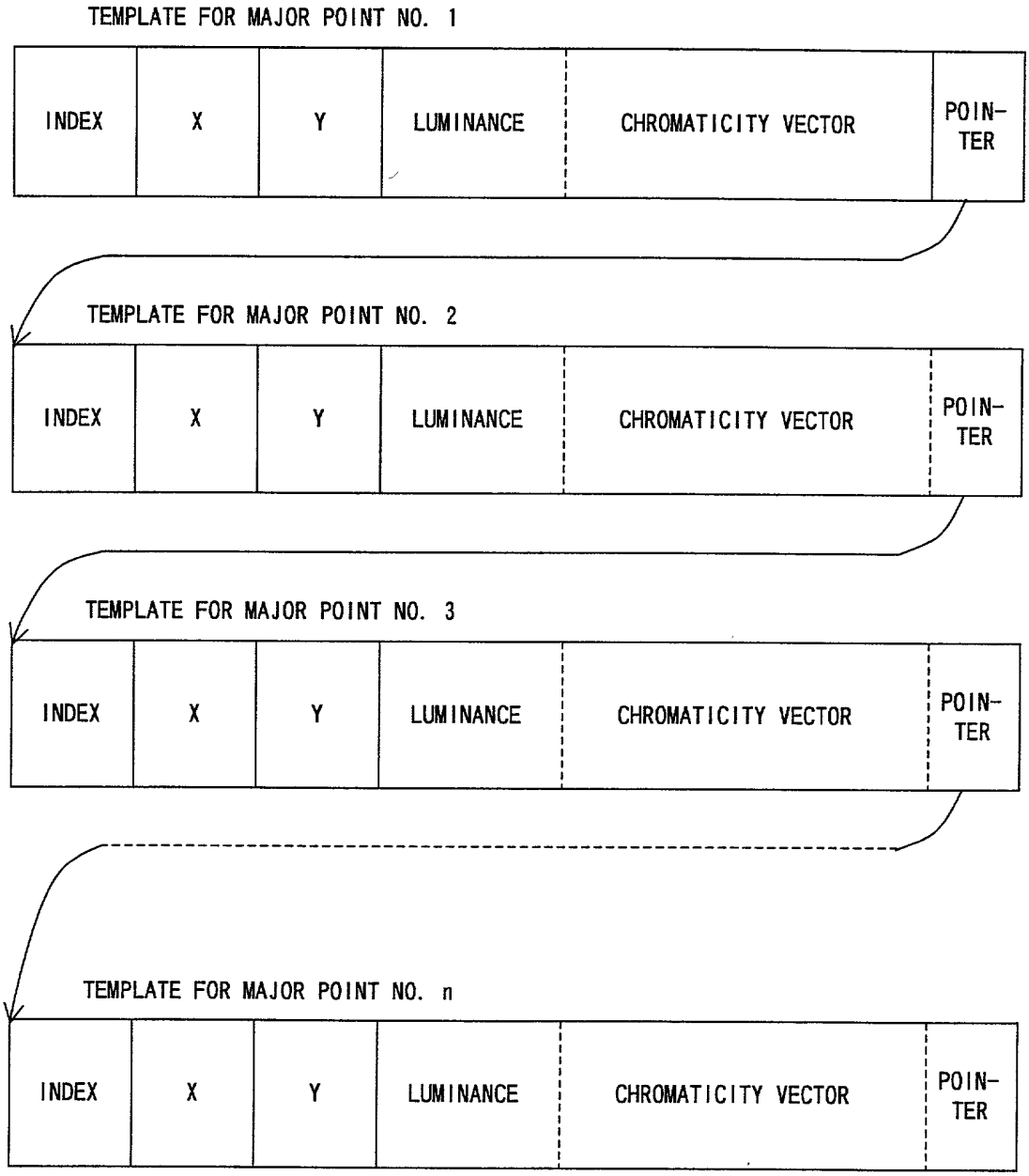

TEMPLATE FOR MAJOR POINT NO. 1
INDEX
X
Y
LUMINANCE
CHROMATICITY VECTOR
POIN-TER
TEMPLATE FOR MAJOR POINT NO. 2
INDEX
X
Y
LUMINANCE
CHROMATICITY VECTOR
POIN-TER
TEMPLATE FOR MAJOR POINT NO. 3
INDEX
X
Y
LUMINANCE
CHROMATICITY VECTOR
POIN-TER
TEMPLATE FOR MAJOR POINT NO. n
INDEX
X
Y
LUMINANCE
CHROMATICITY VECTOR
POIN-TER

FIG. 13

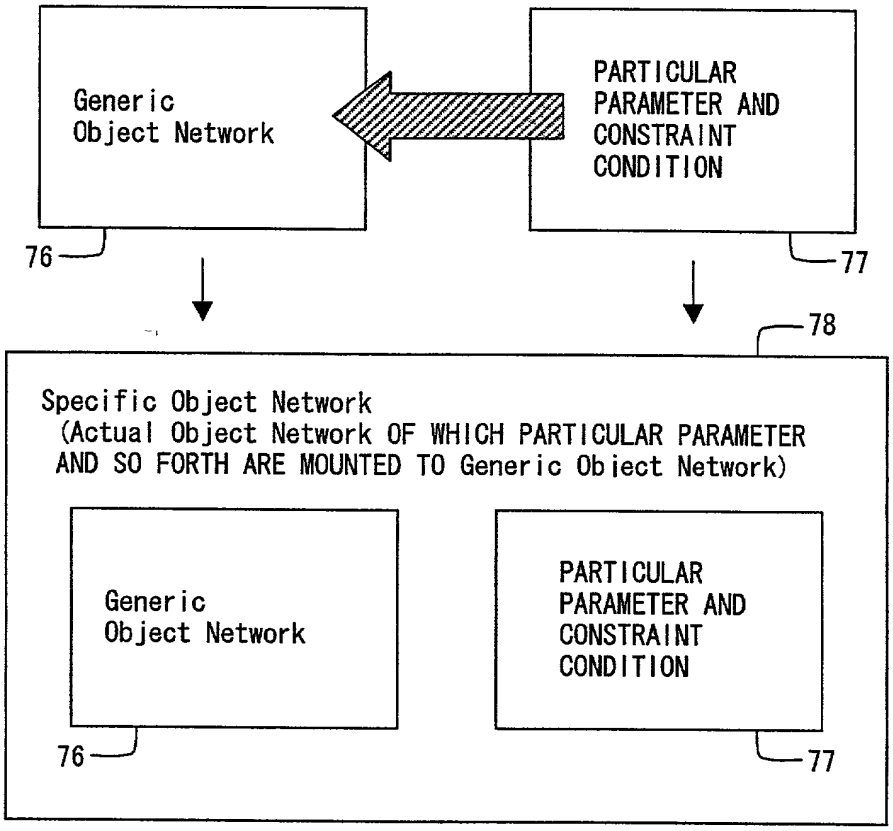

Generic
Object Network
PARTICULAR
PARAMETER AND
CONSTRAINT
CONDITION
76
77
78
Specific Object Network
(Actual Object Network OF WHICH PARTICULAR PARAMETER
AND SO FORTH ARE MOUNTED TO Generic Object Network)
Generic
Object Network
PARTICULAR
PARAMETER AND
CONSTRAINT
CONDITION
76
77

FIG. 14

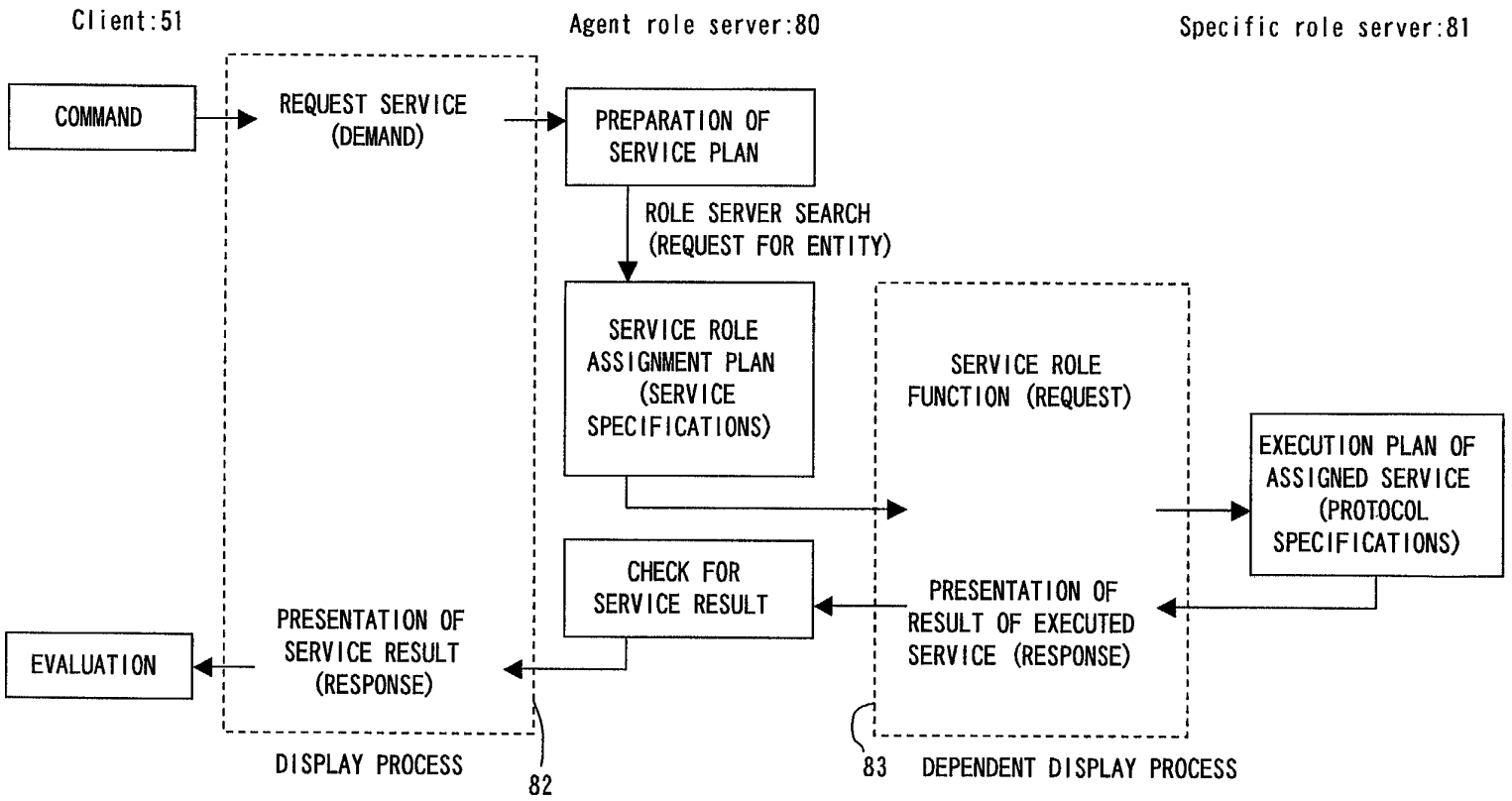

Client:51
Agent role server:80
Specific role server:81
COMMAND
REQUEST SERVICE (DEMAND)
PREPARATION OF SERVICE PLAN
ROLE SERVER SEARCH (REQUEST FOR ENTITY)
SERVICE ROLE ASSIGNMENT PLAN (SERVICE SPECIFICATIONS)
SERVICE ROLE FUNCTION (REQUEST)
EXECUTION PLAN OF ASSIGNED SERVICE (PROTOCOL SPECIFICATIONS)
CHECK FOR SERVICE RESULT
PRESENTATION OF RESULT OF EXECUTED SERVICE (RESPONSE)
EVALUATION
PRESENTATION OF SERVICE RESULT (RESPONSE)
DISPLAY PROCESS
82
83
DEPENDENT DISPLAY PROCESS

FIG. 15

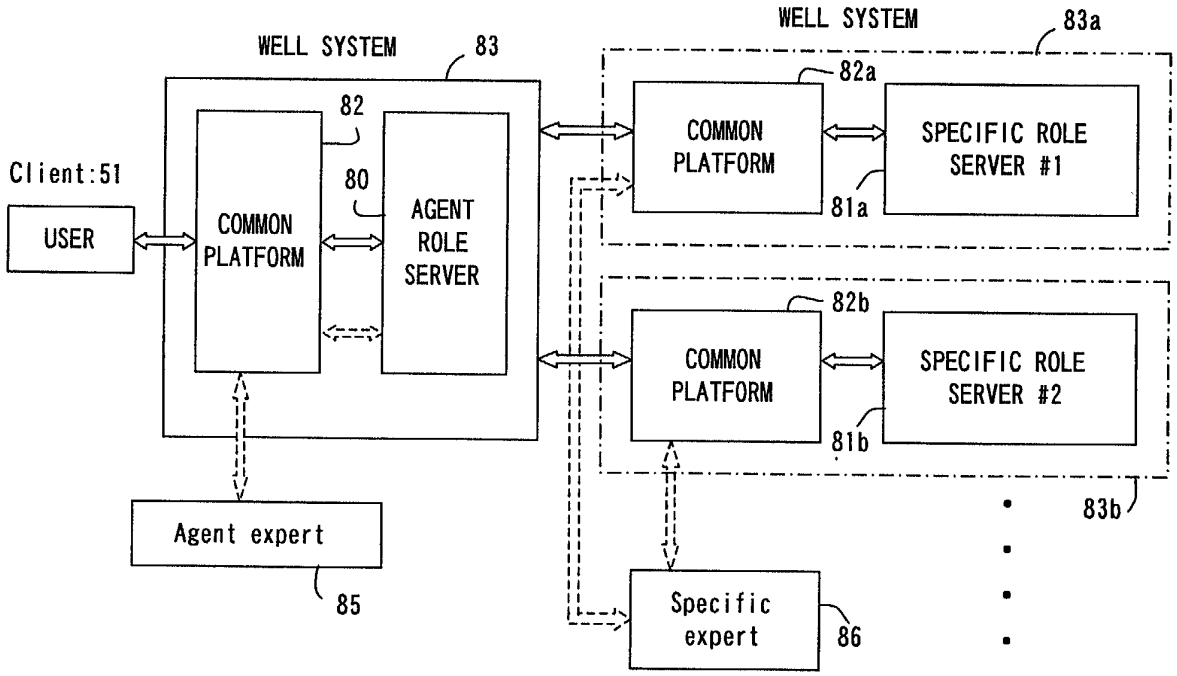

WELL SYSTEM
83
82
80
Client:51
USER
COMMON PLATFORM
AGENT ROLE SERVER
Agent expert
85
WELL SYSTEM
83a
82a
COMMON PLATFORM
SPECIFIC ROLE SERVER #1
81a
82b
COMMON PLATFORM
SPECIFIC ROLE SERVER #2
81b
83b
Specific expert
86

FIG. 16

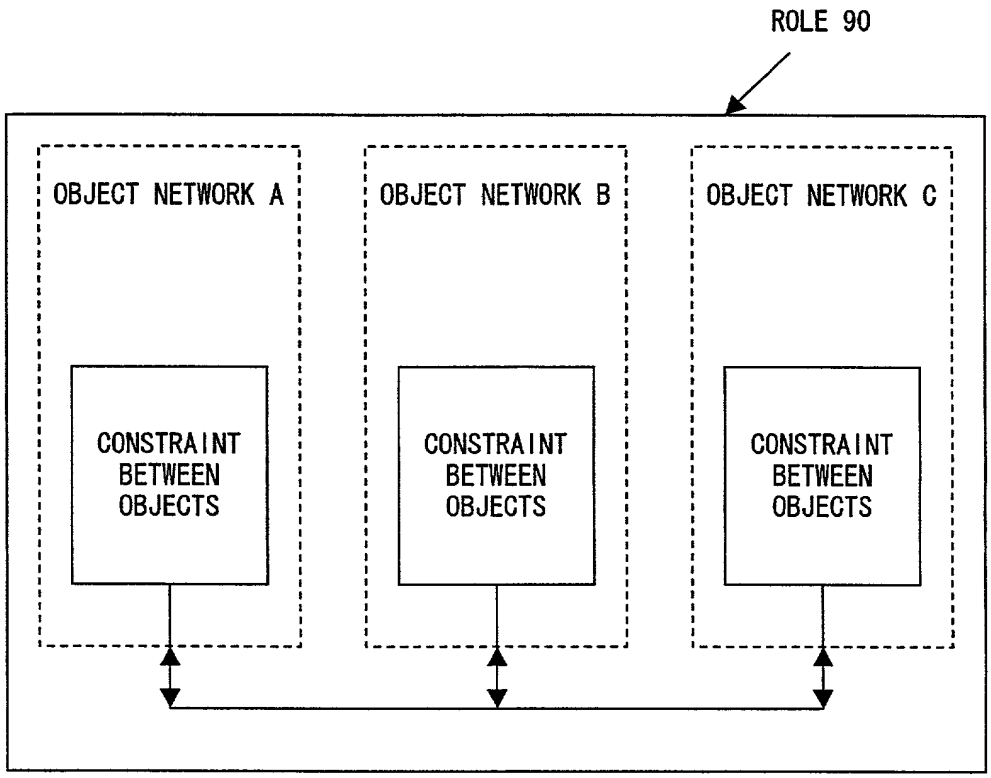

ROLE 90
OBJECT NETWORK A
OBJECT NETWORK B
OBJECT NETWORK C
CONSTRAINT BETWEEN OBJECTS
CONSTRAINT BETWEEN OBJECTS
CONSTRAINT BETWEEN OBJECTS

FIG. 17

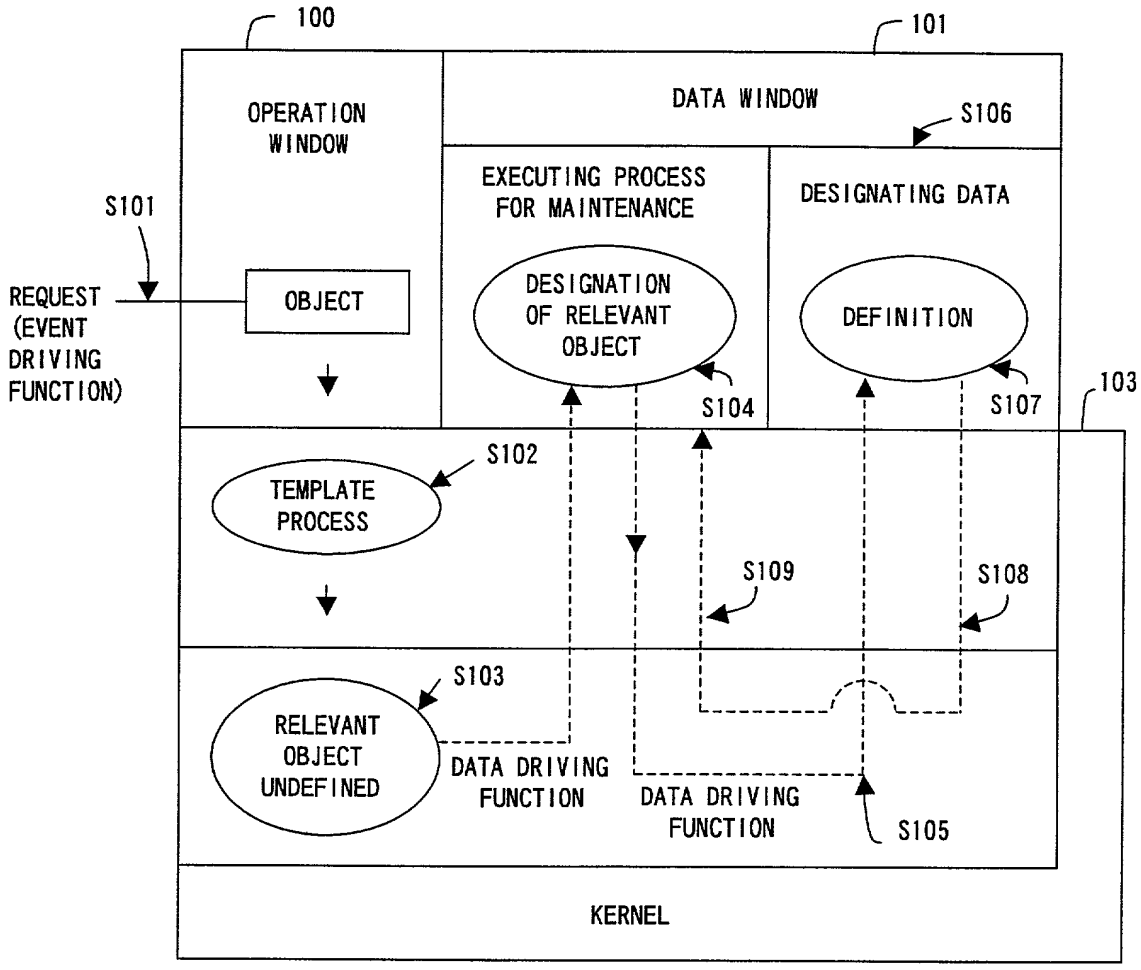

100
101
OPERATION WINDOW
DATA WINDOW
S106
EXECUTING PROCESS FOR MAINTENANCE
DESIGNATING DATA
S101
REQUEST (EVENT DRIVING FUNCTION)
OBJECT
DESIGNATION OF RELEVANT OBJECT
DEFINITION
S104
S107
103
S102
TEMPLATE PROCESS
S109
S108
S103
RELEVANT OBJECT UNDEFINED
DATA DRIVING FUNCTION
DATA DRIVING FUNCTION
S105
KERNEL

FIG. 18

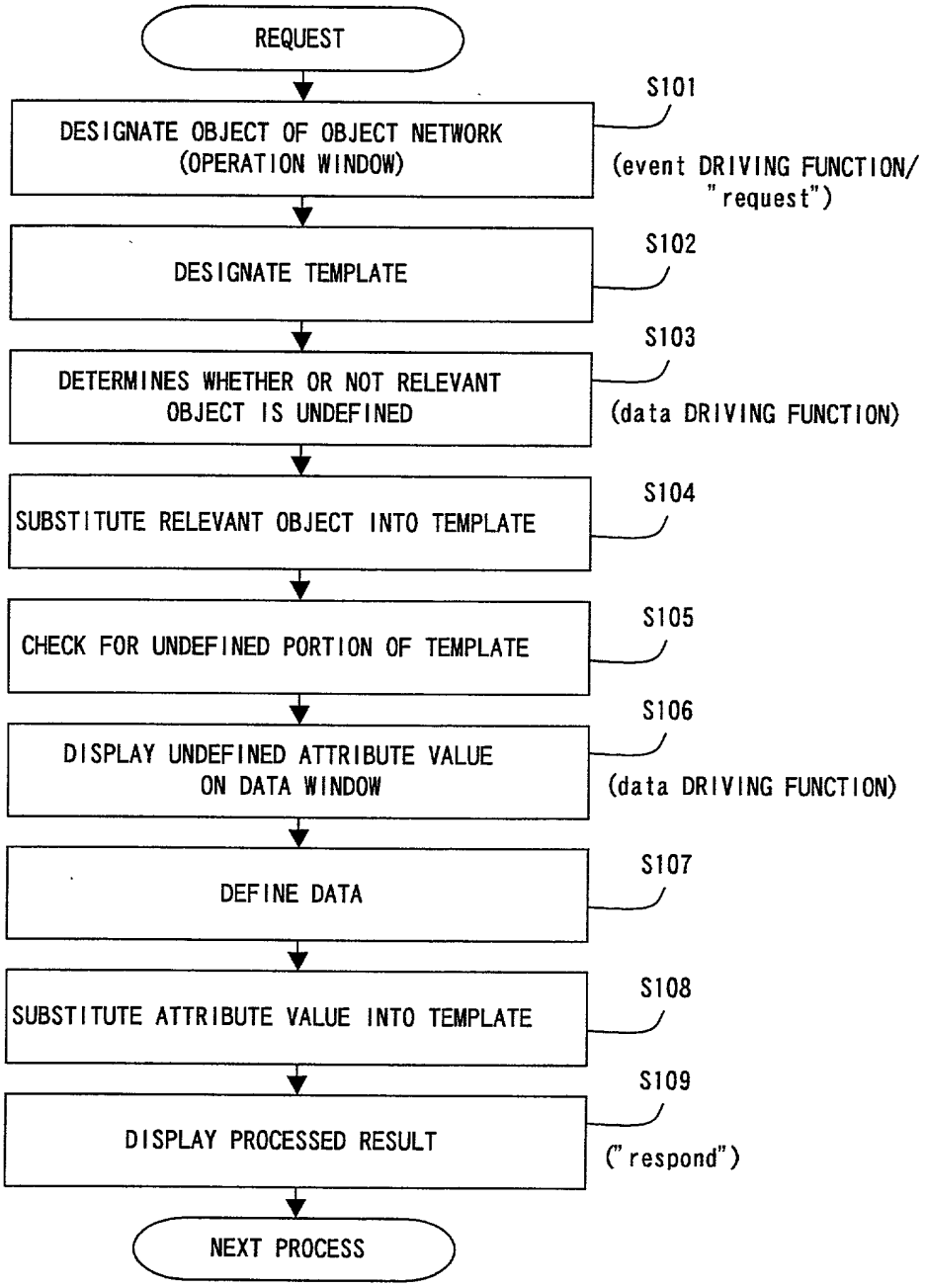

REQUEST
DESIGNATE OBJECT OF OBJECT NETWORK (OPERATION WINDOW)
S101
(event DRIVING FUNCTION/ "request")
DESIGNATE TEMPLATE
S102
DETERMINES WHETHER OR NOT RELEVANT OBJECT IS UNDEFINED
S103
(data DRIVING FUNCTION)
SUBSTITUTE RELEVANT OBJECT INTO TEMPLATE
S104
CHECK FOR UNDEFINED PORTION OF TEMPLATE
S105
DISPLAY UNDEFINED ATTRIBUTE VALUE ON DATA WINDOW
S106
(data DRIVING FUNCTION)
DEFINE DATA
S107
SUBSTITUTE ATTRIBUTE VALUE INTO TEMPLATE
S108
DISPLAY PROCESSED RESULT
S109
("respond")
NEXT PROCESS

FIG. 19

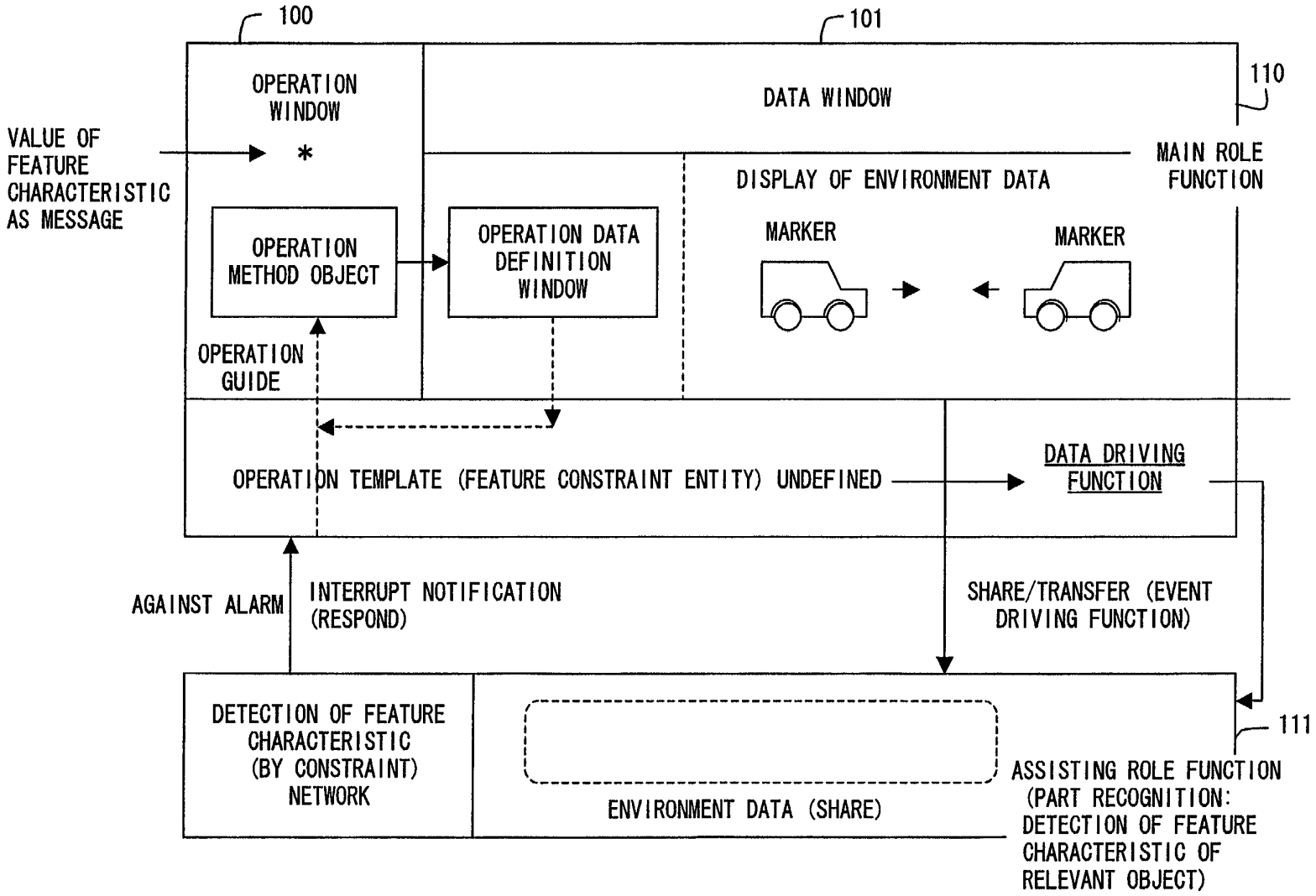

100
101
110
OPERATION WINDOW
DATA WINDOW
VALUE OF FEATURE CHARACTERISTIC AS MESSAGE
*
MAIN ROLE FUNCTION
DISPLAY OF ENVIRONMENT DATA
OPERATION METHOD OBJECT
OPERATION DATA DEFINITION WINDOW
MARKER
MARKER
OPERATION GUIDE
OPERATION TEMPLATE (FEATURE CONSTRAINT ENTITY) UNDEFINED
DATA DRIVING FUNCTION
AGAINST ALARM
INTERRUPT NOTIFICATION (RESPOND)
SHARE/TRANSFER (EVENT DRIVING FUNCTION)
DETECTION OF FEATURE CHARACTERISTIC (BY CONSTRAINT) NETWORK
ENVIRONMENT DATA (SHARE)
111
ASSISTING ROLE FUNCTION (PART RECOGNITION: DETECTION OF FEATURE CHARACTERISTIC OF RELEVANT OBJECT)

FIG. 20

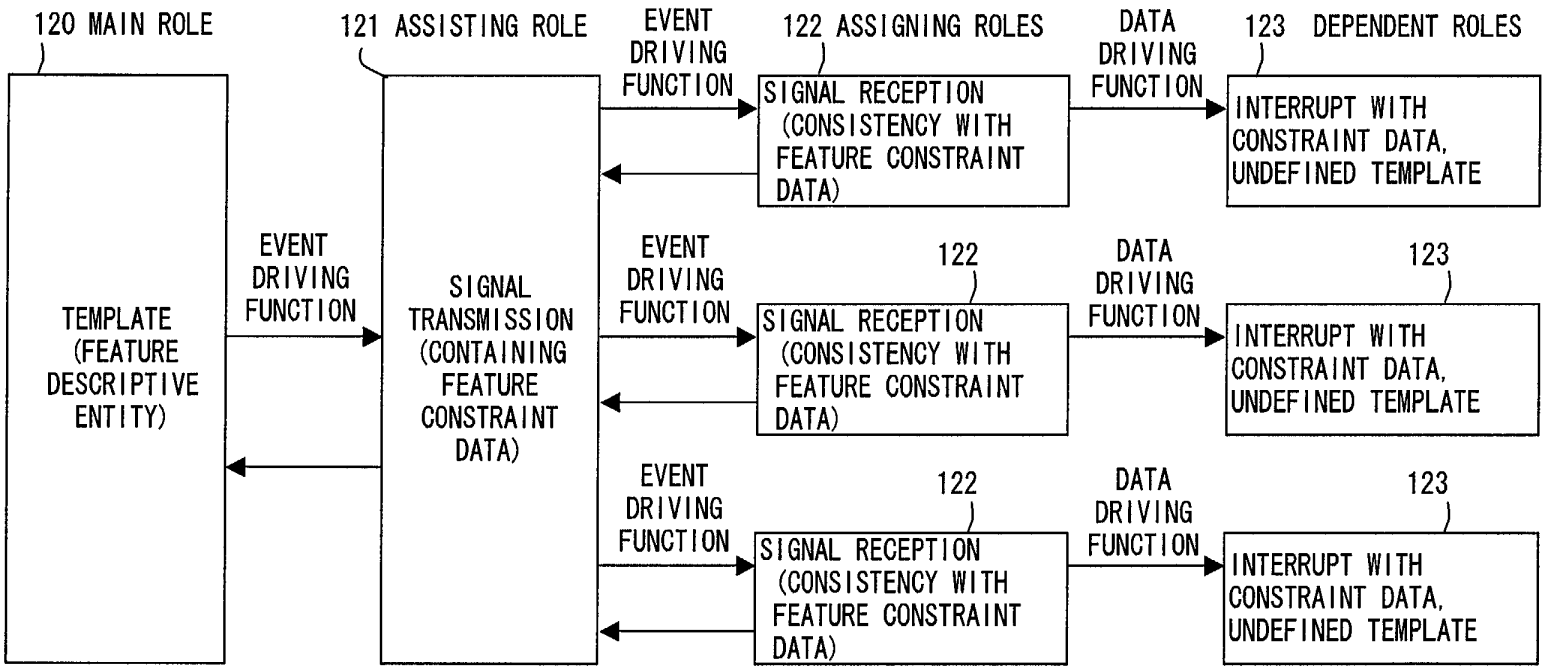

120 MAIN ROLE
121 ASSISTING ROLE
EVENT DRIVING FUNCTION
122 ASSIGNING ROLES
DATA DRIVING FUNCTION
123 DEPENDENT ROLES
TEMPLATE (FEATURE DESCRIPTIVE ENTITY)
EVENT DRIVING FUNCTION
SIGNAL TRANSMISSION (CONTAINING FEATURE CONSTRAINT DATA)
EVENT DRIVING FUNCTION
SIGNAL RECEPTION (CONSISTENCY WITH FEATURE CONSTRAINT DATA)
DATA DRIVING FUNCTION
INTERRUPT WITH CONSTRAINT DATA, UNDEFINED TEMPLATE
122
123
EVENT DRIVING FUNCTION
SIGNAL RECEPTION (CONSISTENCY WITH FEATURE CONSTRAINT DATA)
DATA DRIVING FUNCTION
INTERRUPT WITH CONSTRAINT DATA, UNDEFINED TEMPLATE
122
123
EVENT DRIVING FUNCTION
SIGNAL RECEPTION (CONSISTENCY WITH FEATURE CONSTRAINT DATA)
DATA DRIVING FUNCTION
INTERRUPT WITH CONSTRAINT DATA, UNDEFINED TEMPLATE

FIG. 21

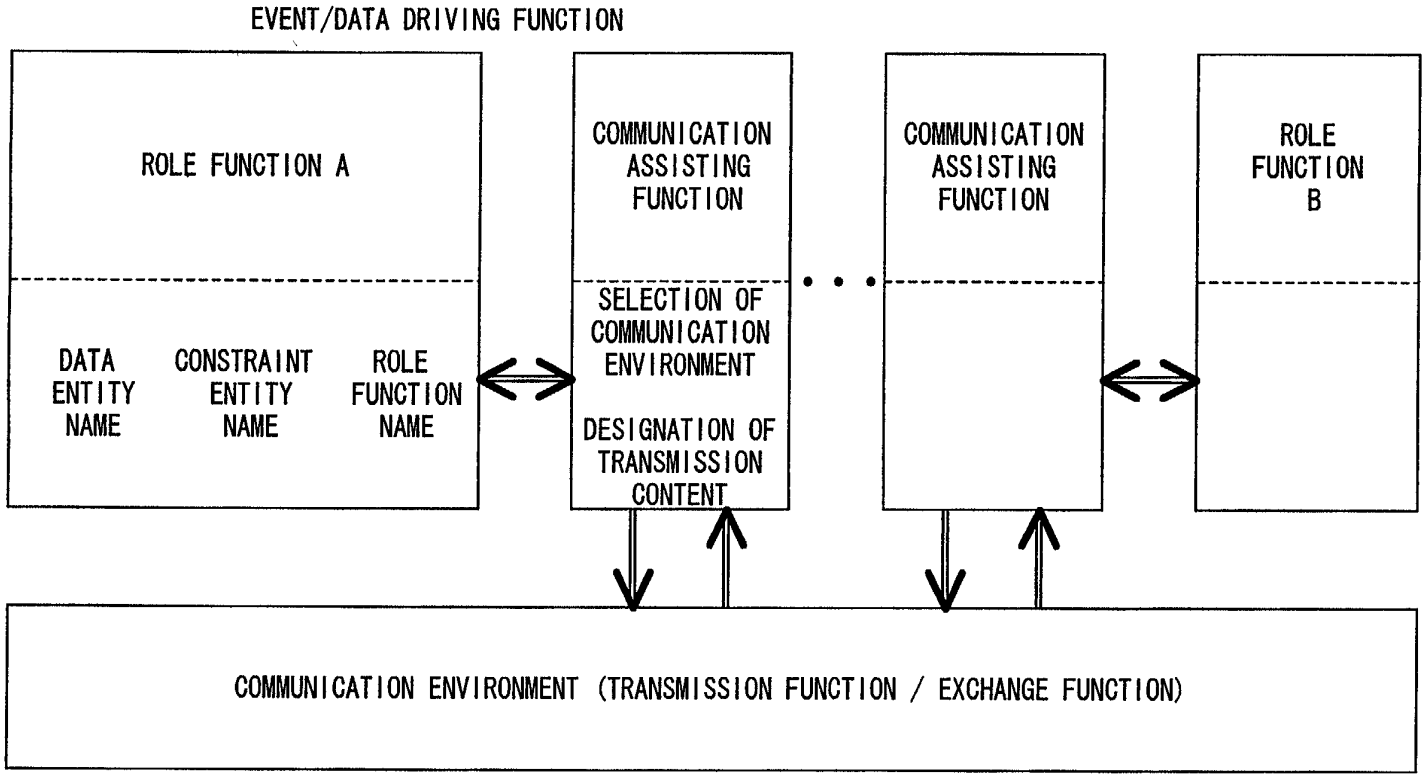

EVENT/DATA DRIVING FUNCTION
ROLE FUNCTION A
DATA ENTITY NAME
CONSTRAINT ENTITY NAME
ROLE FUNCTION NAME
COMMUNICATION ASSISTING FUNCTION
SELECTION OF COMMUNICATION ENVIRONMENT
DESIGNATION OF TRANSMISSION CONTENT
COMMUNICATION ASSISTING FUNCTION
ROLE FUNCTION B
COMMUNICATION ENVIRONMENT (TRANSMISSION FUNCTION / EXCHANGE FUNCTION)

FIG. 22

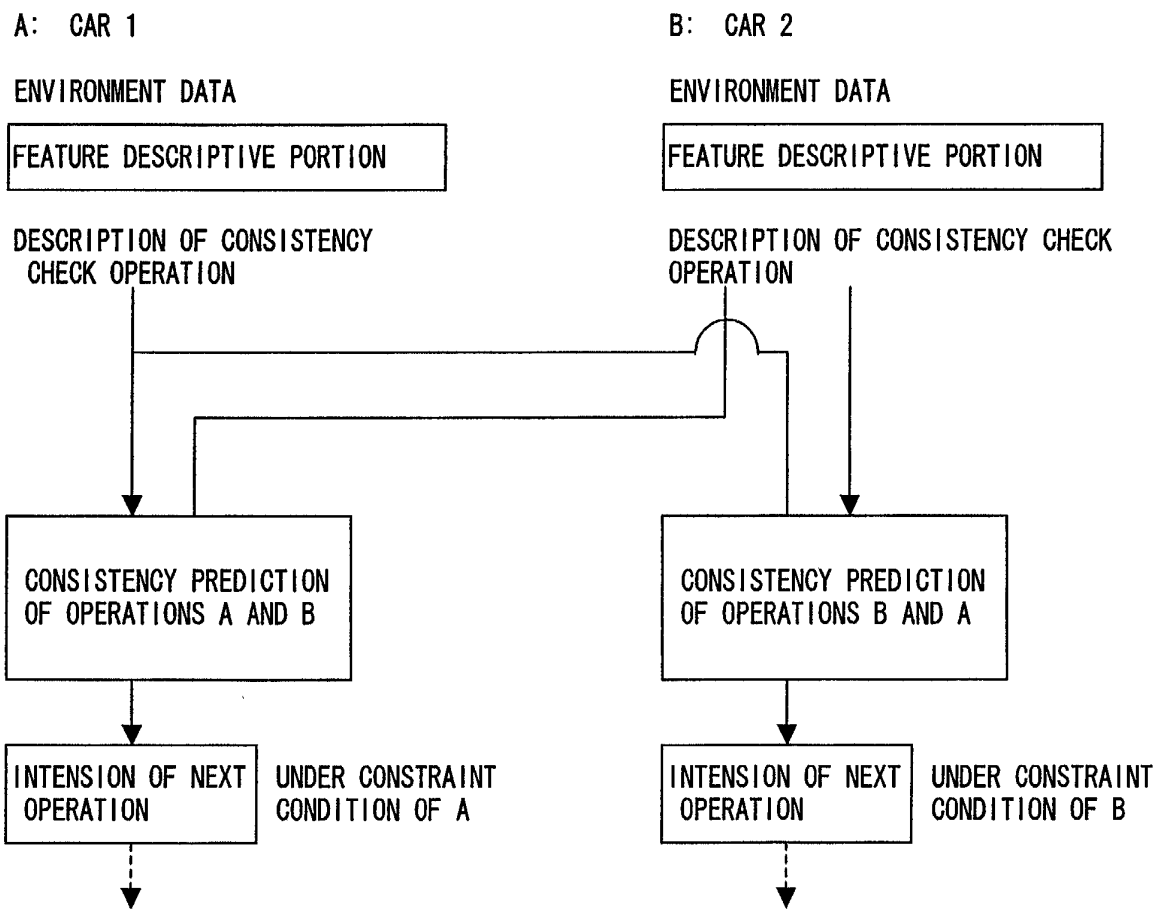

A: CAR 1
ENVIRONMENT DATA
FEATURE DESCRIPTIVE PORTION
DESCRIPTION OF CONSISTENCY CHECK OPERATION
CONSISTENCY PREDICTION OF OPERATIONS A AND B
INTENSION OF NEXT OPERATION
UNDER CONSTRAINT CONDITION OF A
B: CAR 2
ENVIRONMENT DATA
FEATURE DESCRIPTIVE PORTION
DESCRIPTION OF CONSISTENCY CHECK OPERATION
CONSISTENCY PREDICTION OF OPERATIONS B AND A
INTENSION OF NEXT OPERATION
UNDER CONSTRAINT CONDITION OF B

FIG. 23

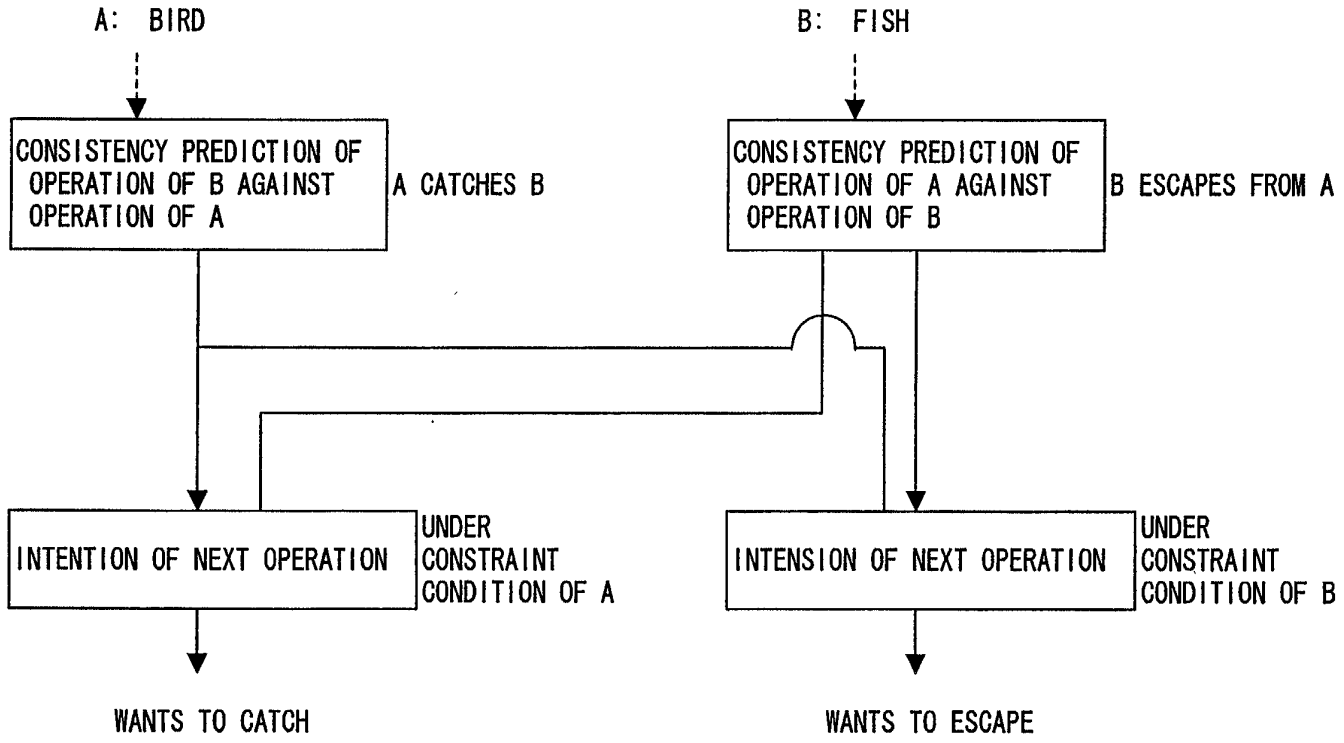

A: BIRD
B: FISH
CONSISTENCY PREDICTION OF OPERATION OF B AGAINST OPERATION OF A
A CATCHES B
CONSISTENCY PREDICTION OF OPERATION OF A AGAINST OPERATION OF B
B ESCAPES FROM A
INTENTION OF NEXT OPERATION
UNDER CONSTRAINT CONDITION OF A
INTENSION OF NEXT OPERATION
UNDER CONSTRAINT CONDITION OF B
WANTS TO CATCH
WANTS TO ESCAPE

FIG. 24

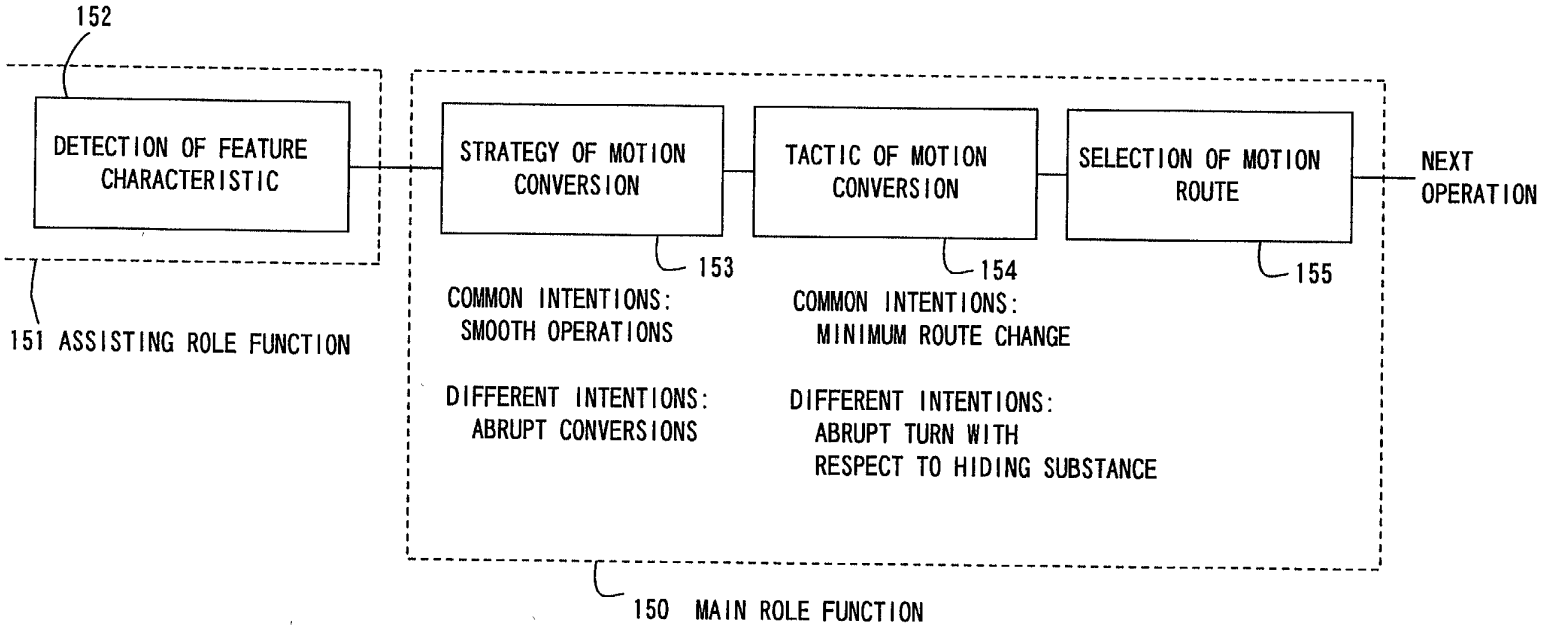

152
DETECTION OF FEATURE CHARACTERISTIC
151 ASSISTING ROLE FUNCTION
STRATEGY OF MOTION CONVERSION
153
COMMON INTENTIONS:
SMOOTH OPERATIONS
DIFFERENT INTENTIONS:
ABRUPT CONVERSIONS
TACTIC OF MOTION CONVERSION
154
COMMON INTENTIONS:
MINIMUM ROUTE CHANGE
DIFFERENT INTENTIONS:
ABRUPT TURN WITH
RESPECT TO HIDING SUBSTANCE
SELECTION OF MOTION ROUTE
155
NEXT OPERATION
150 MAIN ROLE FUNCTION

FIG. 25

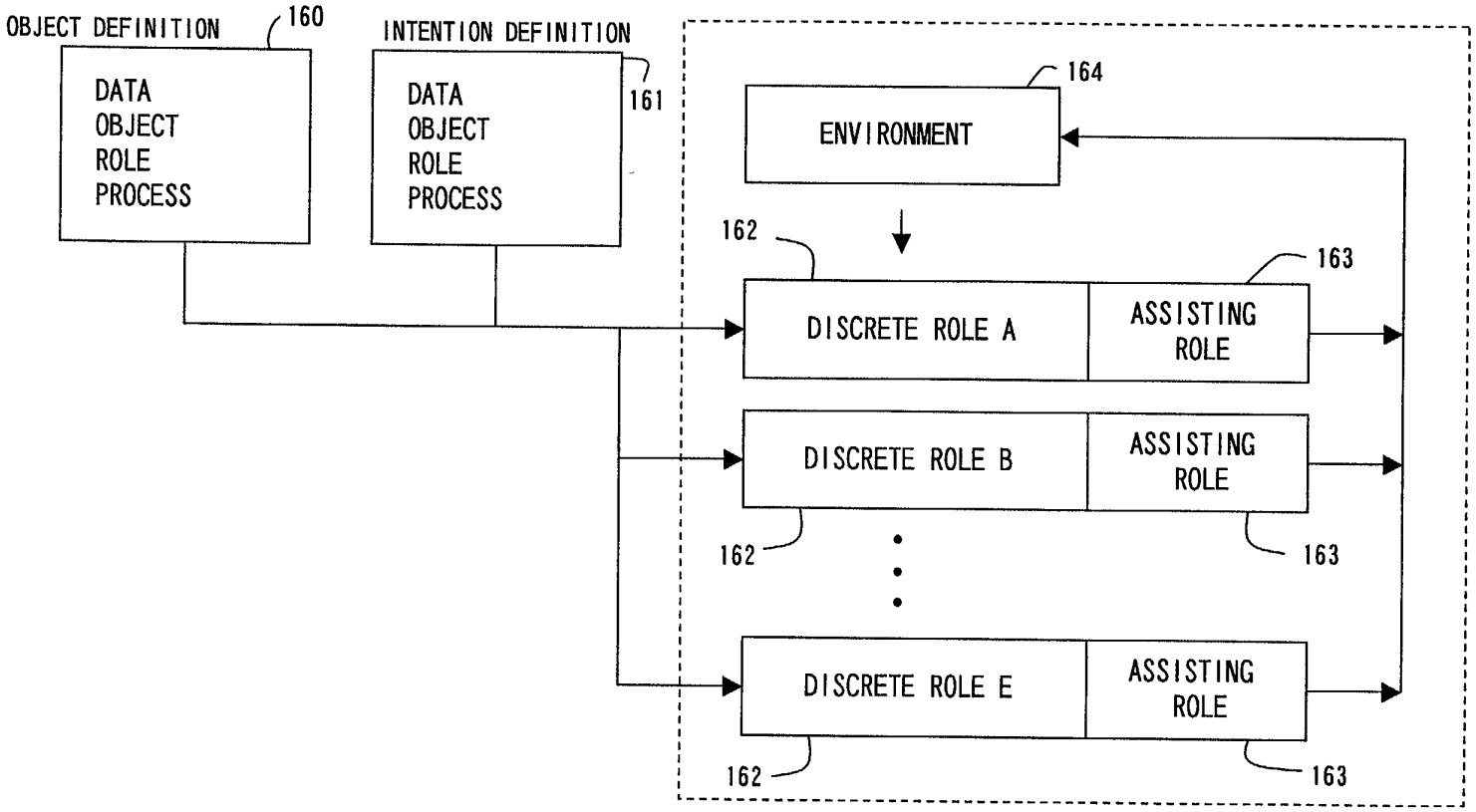

OBJECT DEFINITION
160
DATA
OBJECT
ROLE
PROCESS
INTENTION DEFINITION
161
DATA
OBJECT
ROLE
PROCESS
164
ENVIRONMENT
162
163
DISCRETE ROLE A
ASSISTING ROLE
DISCRETE ROLE B
ASSISTING ROLE
162
163
DISCRETE ROLE E
ASSISTING ROLE
162
163

FIG. 26

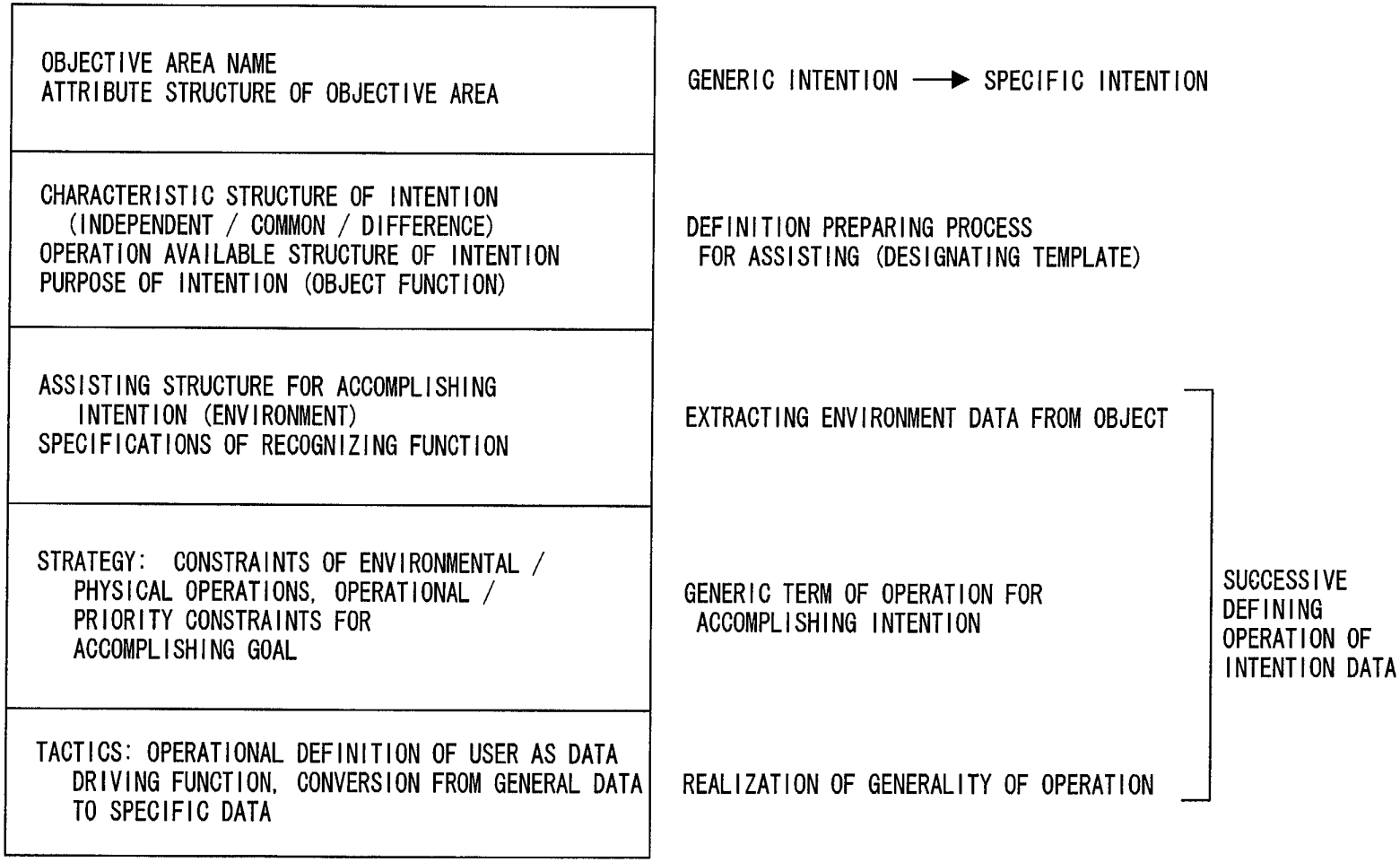

OBJECTIVE AREA NAME
ATTRIBUTE STRUCTURE OF OBJECTIVE AREA
GENERIC INTENTION → SPECIFIC INTENTION
CHARACTERISTIC STRUCTURE OF INTENTION
(INDEPENDENT / COMMON / DIFFERENCE)
OPERATION AVAILABLE STRUCTURE OF INTENTION
PURPOSE OF INTENTION (OBJECT FUNCTION)
DEFINITION PREPARING PROCESS
FOR ASSISTING (DESIGNATING TEMPLATE)
ASSISTING STRUCTURE FOR ACCOMPLISHING
INTENTION (ENVIRONMENT)
SPECIFICATIONS OF RECOGNIZING FUNCTION
EXTRACTING ENVIRONMENT DATA FROM OBJECT
STRATEGY: CONSTRAINTS OF ENVIRONMENTAL /
PHYSICAL OPERATIONS, OPERATIONAL /
PRIORITY CONSTRAINTS FOR
ACCOMPLISHING GOAL
GENERIC TERM OF OPERATION FOR
ACCOMPLISHING INTENTION
TACTICS: OPERATIONAL DEFINITION OF USER AS DATA
DRIVING FUNCTION, CONVERSION FROM GENERAL DATA
TO SPECIFIC DATA
REALIZATION OF GENERALITY OF OPERATION
SUCCESSIVE
DEFINING
OPERATION OF
INTENTION DATA

FIG. 27

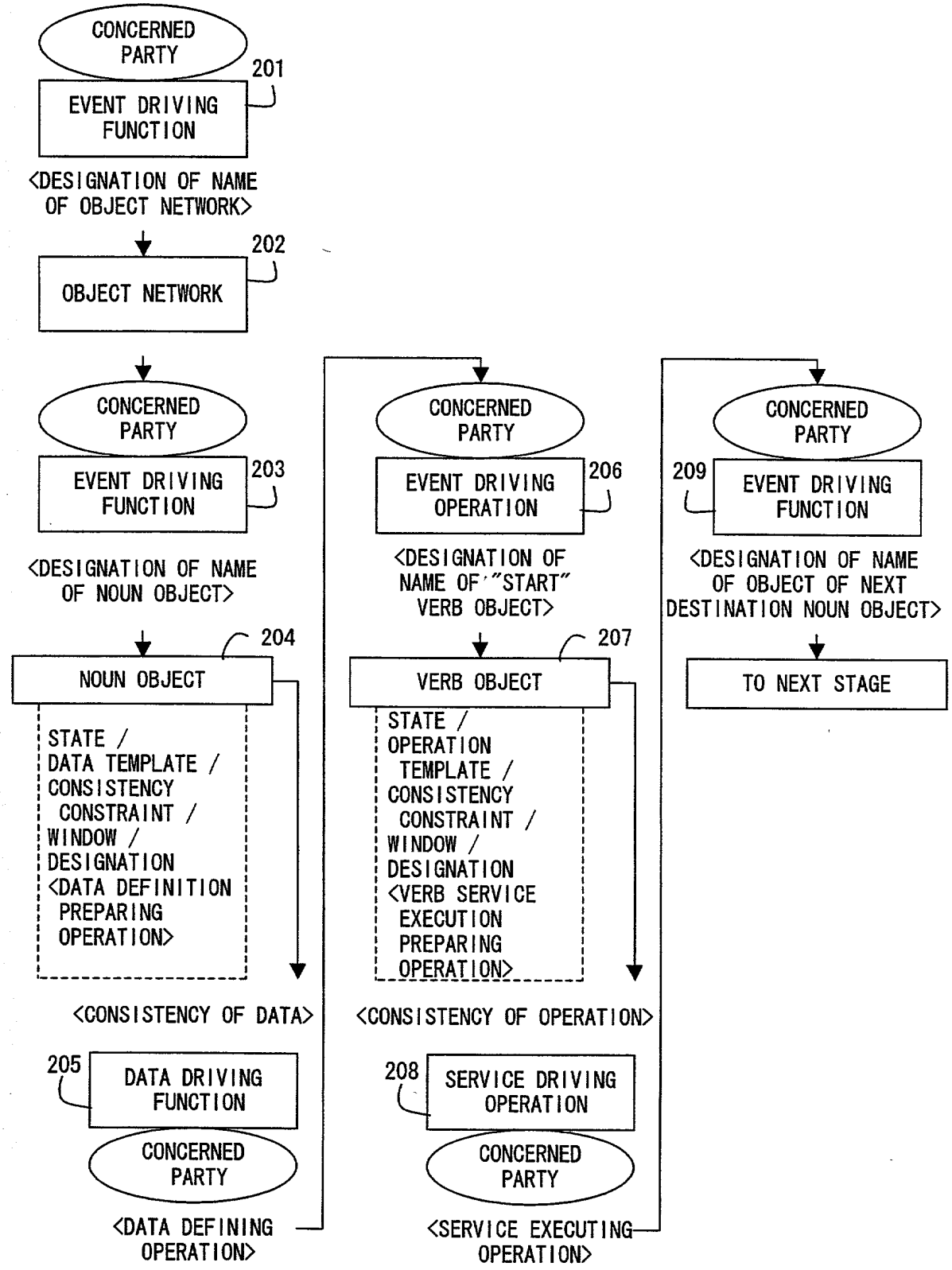

CONCERNED PARTY
201
EVENT DRIVING FUNCTION
<DESIGNATION OF NAME OF OBJECT NETWORK>
202
OBJECT NETWORK
CONCERNED PARTY
203
EVENT DRIVING FUNCTION
<DESIGNATION OF NAME OF NOUN OBJECT>
204
NOUN OBJECT
STATE / DATA TEMPLATE / CONSISTENCY CONSTRAINT / WINDOW / DESIGNATION <DATA DEFINITION PREPARING OPERATION>
<CONSISTENCY OF DATA>
205
DATA DRIVING FUNCTION
CONCERNED PARTY
<DATA DEFINING OPERATION>
CONCERNED PARTY
206
EVENT DRIVING OPERATION
<DESIGNATION OF NAME OF "START" VERB OBJECT>
207
VERB OBJECT
STATE / OPERATION TEMPLATE / CONSISTENCY CONSTRAINT / WINDOW / DESIGNATION <VERB SERVICE EXECUTION PREPARING OPERATION>
<CONSISTENCY OF OPERATION>
208
SERVICE DRIVING OPERATION
CONCERNED PARTY
<SERVICE EXECUTING OPERATION>
CONCERNED PARTY
209
EVENT DRIVING FUNCTION
<DESIGNATION OF NAME OF OBJECT OF NEXT DESTINATION NOUN OBJECT>
TO NEXT STAGE

FIG. 28

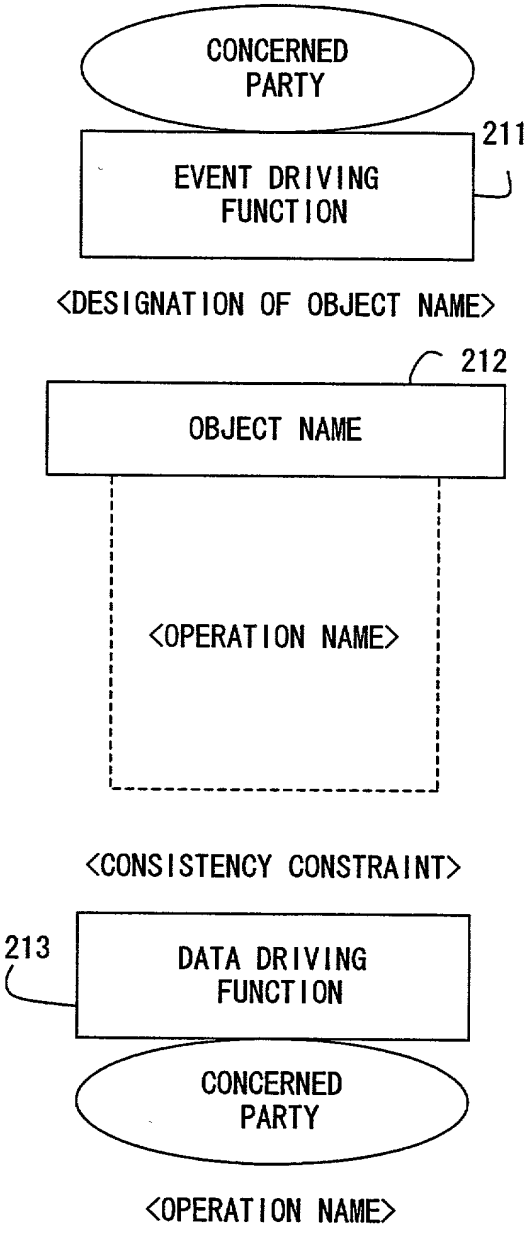

CONCERNED PARTY
211
EVENT DRIVING FUNCTION
<DESIGNATION OF OBJECT NAME>
212
OBJECT NAME
<OPERATION NAME>
<CONSISTENCY CONSTRAINT>
213
DATA DRIVING FUNCTION
CONCERNED PARTY
<OPERATION NAME>

FIG. 29

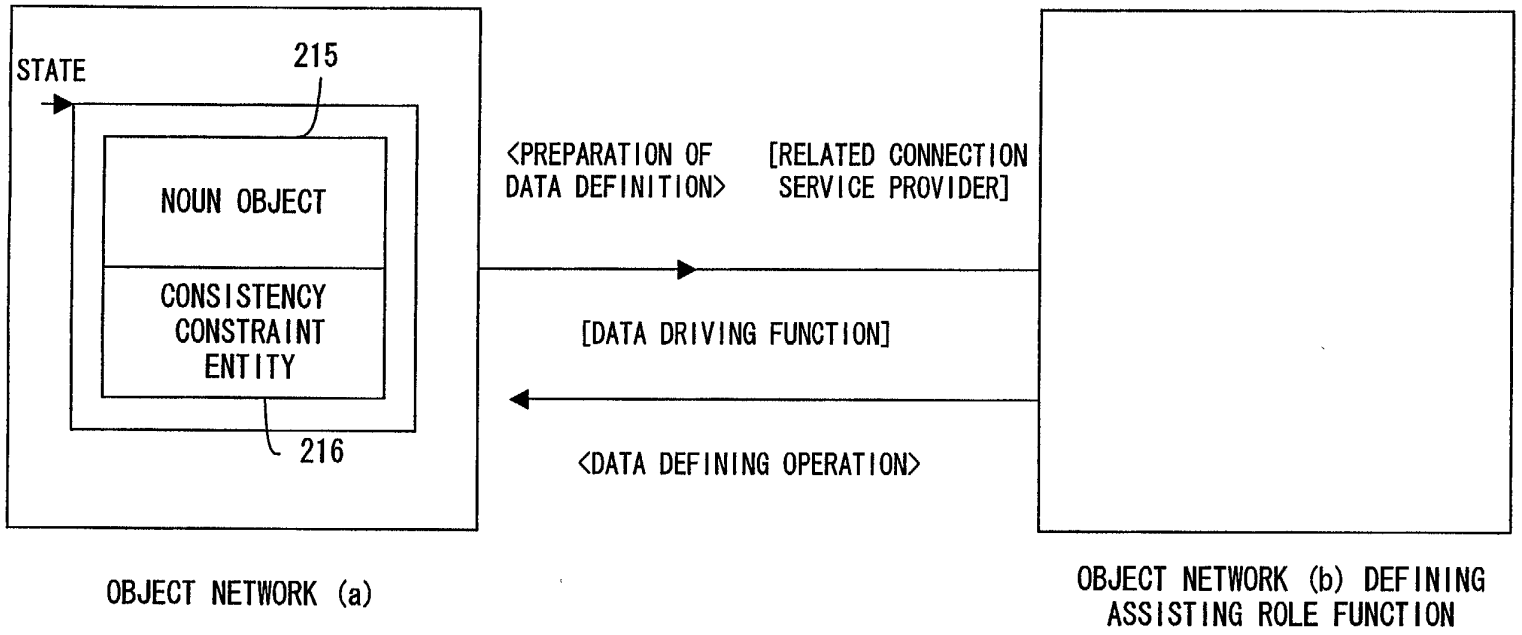

STATE
215
NOUN OBJECT
CONSISTENCY CONSTRAINT ENTITY
216
<PREPARATION OF DATA DEFINITION>
[RELATED CONNECTION SERVICE PROVIDER]
[DATA DRIVING FUNCTION]
<DATA DEFINING OPERATION>
OBJECT NETWORK (a)
OBJECT NETWORK (b) DEFINING ASSISTING ROLE FUNCTION

FIG. 30

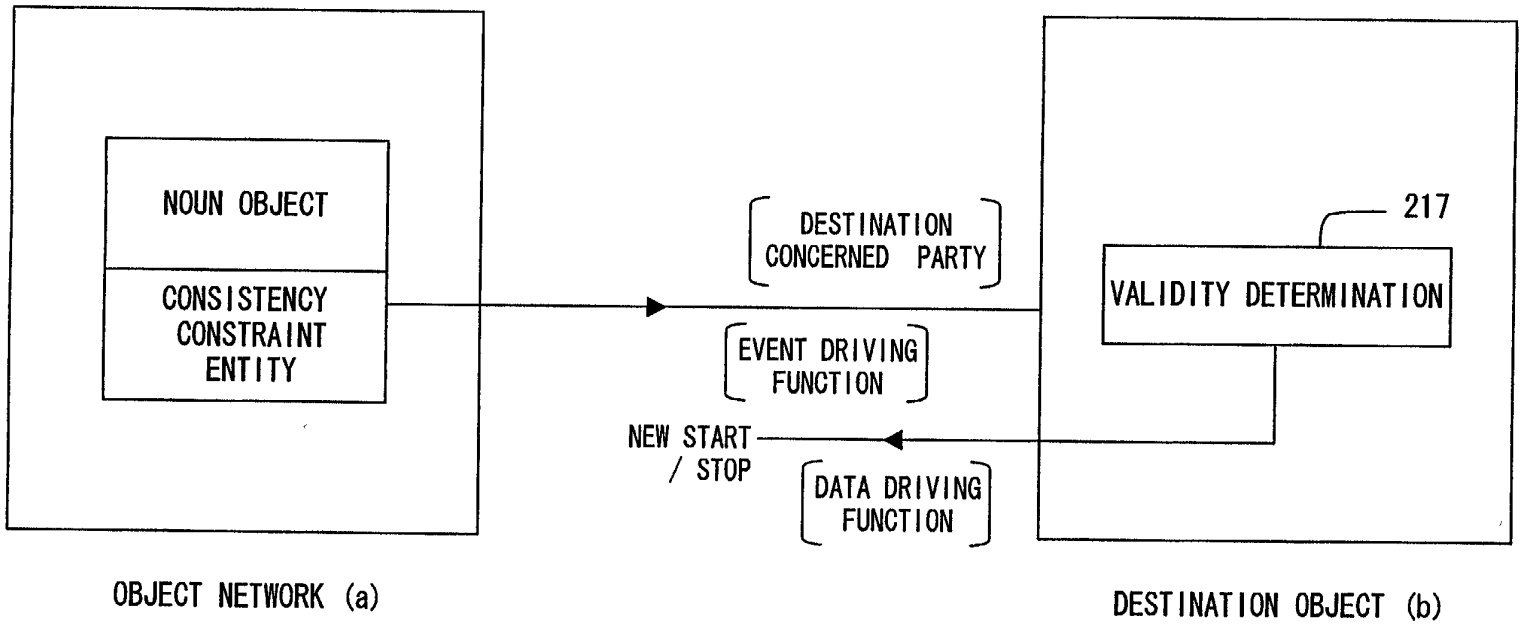

NOUN OBJECT
CONSISTENCY CONSTRAINT ENTITY
DESTINATION CONCERNED PARTY
EVENT DRIVING FUNCTION
NEW START / STOP
DATA DRIVING FUNCTION
217
VALIDITY DETERMINATION
OBJECT NETWORK (a)
DESTINATION OBJECT (b)

FIG. 31

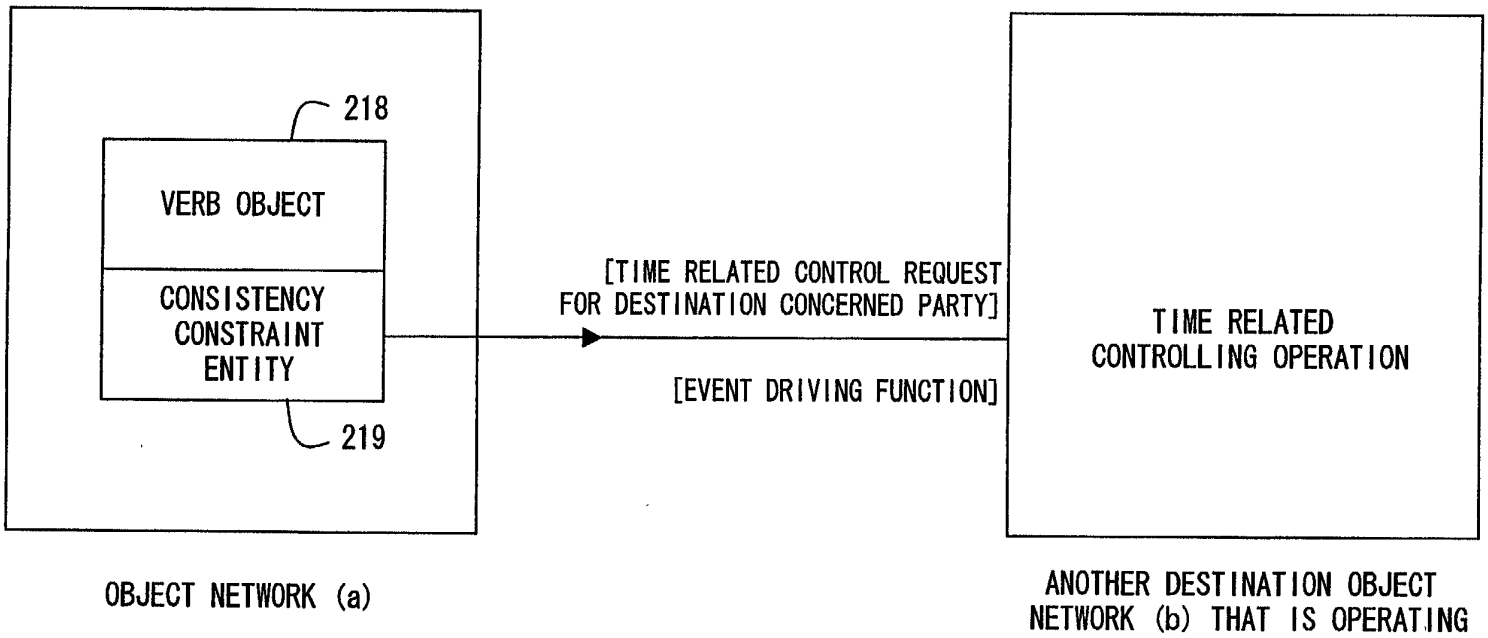

218
VERB OBJECT
CONSISTENCY CONSTRAINT ENTITY
219
[TIME RELATED CONTROL REQUEST FOR DESTINATION CONCERNED PARTY]
[EVENT DRIVING FUNCTION]
TIME RELATED CONTROLLING OPERATION
OBJECT NETWORK (a)
ANOTHER DESTINATION OBJECT NETWORK (b) THAT IS OPERATING

FIG. 32

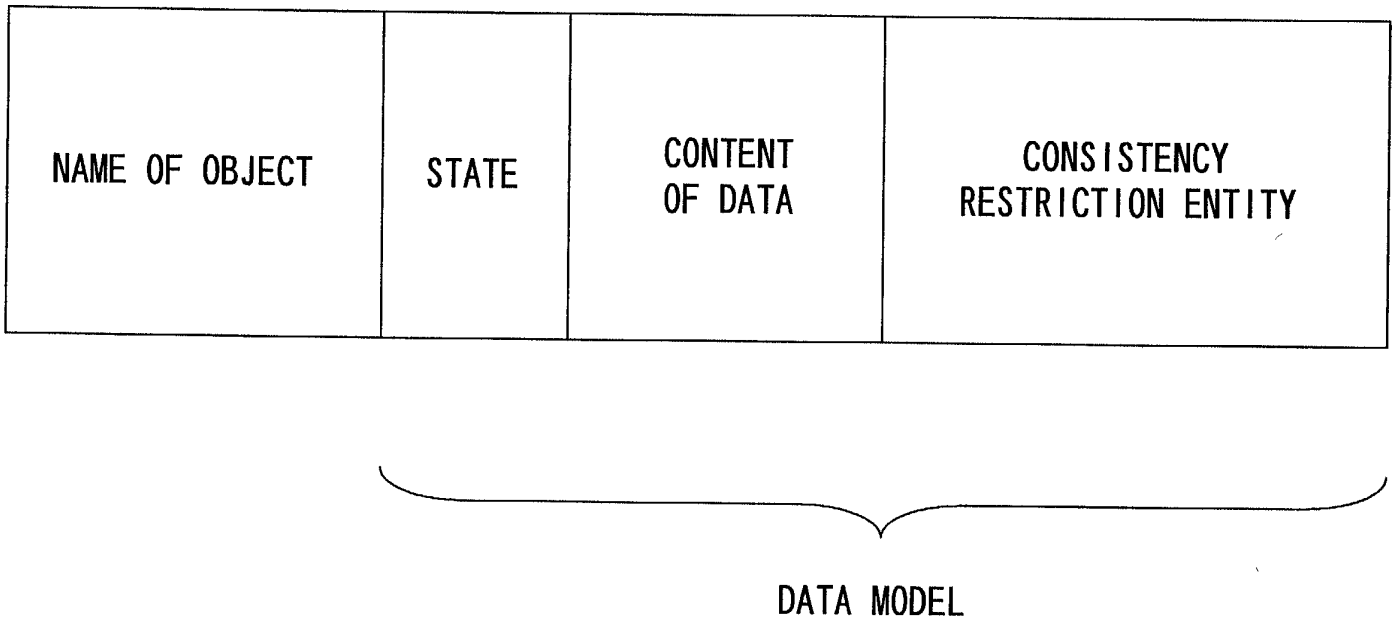

NAME OF OBJECT
STATE
CONTENT OF DATA
CONSISTENCY RESTRICTION ENTITY
DATA MODEL

FIG. 33

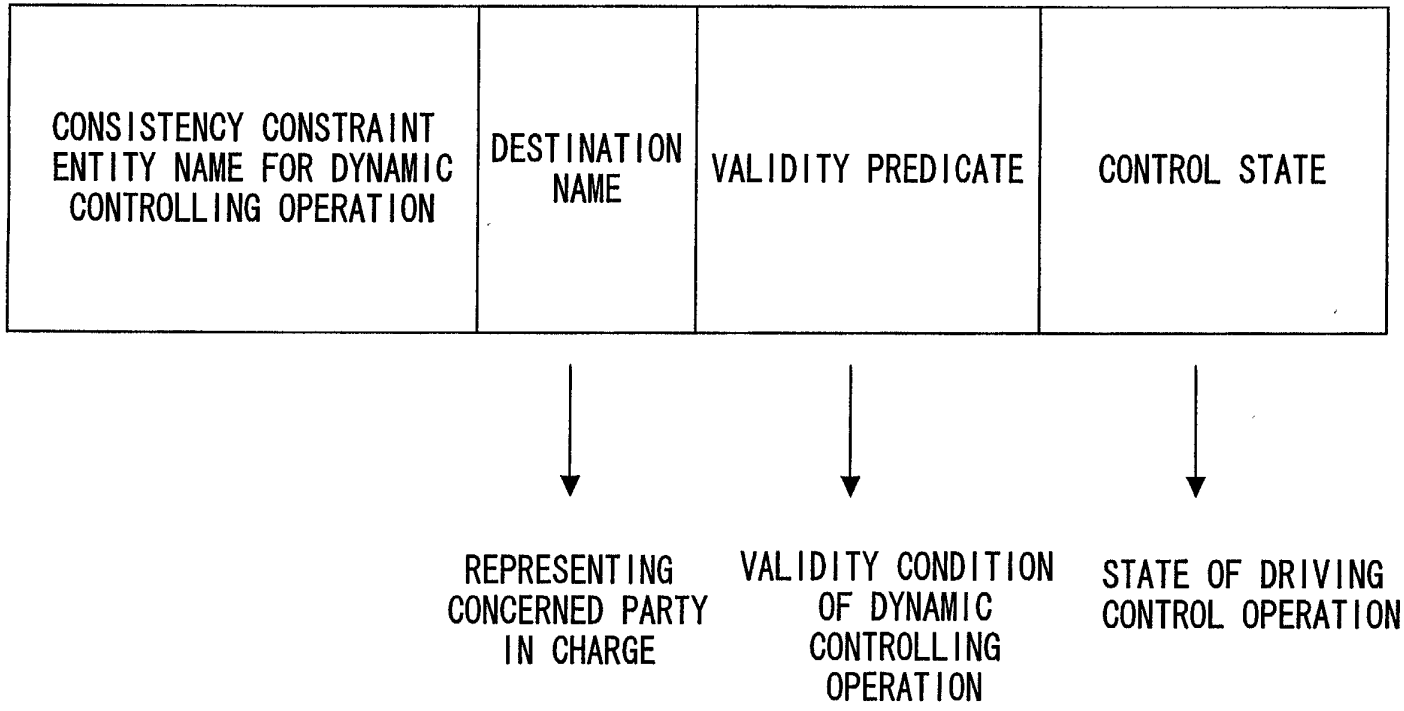

CONSISTENCY CONSTRAINT ENTITY NAME FOR DYNAMIC CONTROLLING OPERATION
DESTINATION NAME
VALIDITY PREDICATE
CONTROL STATE
REPRESENTING CONCERNED PARTY IN CHARGE
VALIDITY CONDITION OF DYNAMIC CONTROLLING OPERATION
STATE OF DRIVING CONTROL OPERATION

FIG. 34

STRUCTURE SERVICE		CONTROL PROCESS SERVICE		DATA STRUCTURE SERVICE		COMMUNI-CATION SERVICE	SIMULATION SERVICE
(I) REQUEST FROM CONCERNED PARTY	(II) REQUEST FROM SYSTEM	(III) CONTROLLING PROCESS (PROCESS)	(IV) CONSISTENCY PROCESS	(V) SEARCH	(VI) DATA-INTENSIVE	(VII) COMMUNI-CATION (BROADCAST, TRANS-MISSION)	(VIII) PARAMETER DETERMINATION
EVENT DRIVING FUNCTION	DATA DRIVING FUNCTION	STATE, TIME RELATED CONTROL	CONSISTENCY CONSTRAINT	NAME MANAGE-MENT	DATA MANAGEMENT, GRAPH STRUCTURE, EDITOR	NOTIFICA-TION BETWEEN CONCERNED PARTIES	EVALUATION

FIG. 35

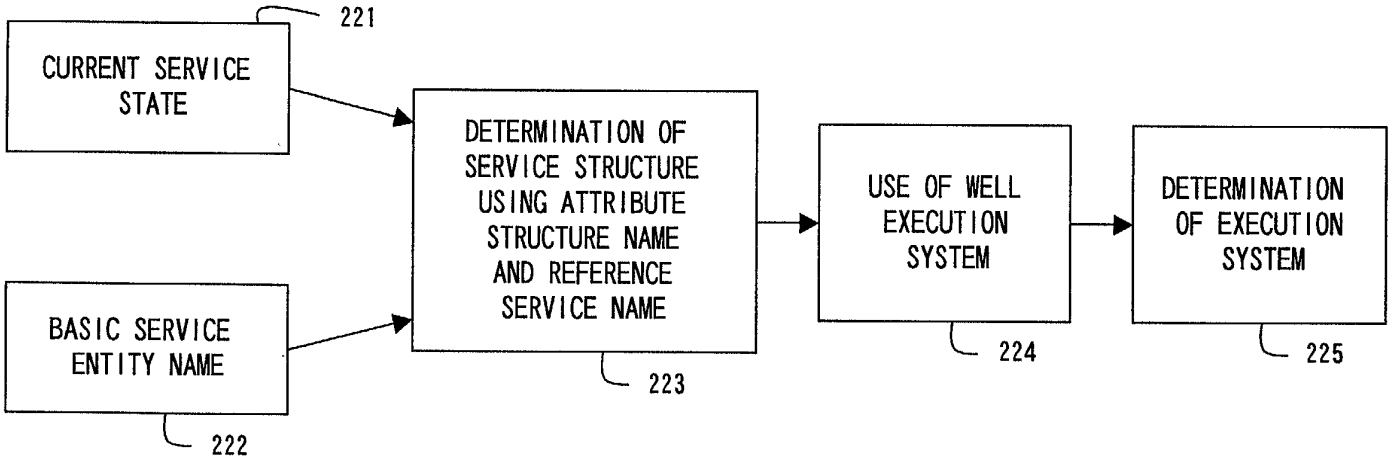

221
CURRENT SERVICE STATE
BASIC SERVICE ENTITY NAME
222
DETERMINATION OF SERVICE STRUCTURE USING ATTRIBUTE STRUCTURE NAME AND REFERENCE SERVICE NAME
223
USE OF WELL EXECUTION SYSTEM
224
DETERMINATION OF EXECUTION SYSTEM
225

FIG. 36

PLACED BY PUBLISHER

<table>
<tr><td>STATIC ADAPTATION</td><td colspan="2">DYNAMIC ADAPTATION</td></tr>
<tr><td>CHANGE OF TACTIC / STRATEGY PARAMETERS</td><td>CHANGE OF TACTIC / STRATEGY NET STRUCTURE</td><td>DUTIES OF CONCERNED PARTIES / FORMATION OF TEAM, CHANGE OF INTENTION, AND CHANGE OF STATE</td></tr>
<tr><td>SYSTEM REQUEST SERVICE</td><td>CONSISTENCY PROCESS SERVICE</td><td>STRUCTURE SERVICE</td></tr>
<tr><td colspan="3">COMMUNICATION SERVICE, SIMULATION SERVICE</td></tr>
</table>

FIG. 37

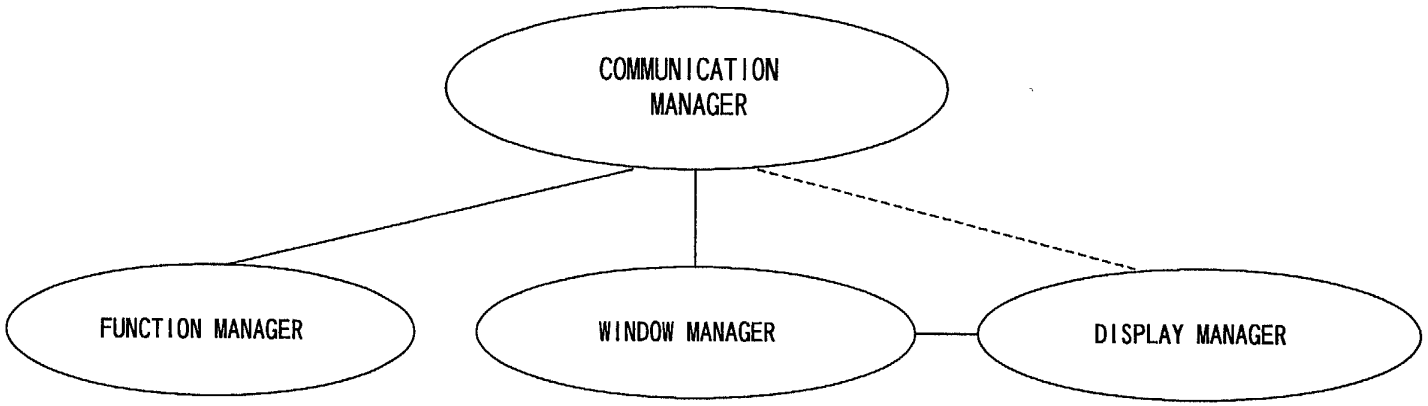

COMMUNICATION MANAGER
FUNCTION MANAGER
WINDOW MANAGER
DISPLAY MANAGER

FIG. 38

PCT/JP2003/016263

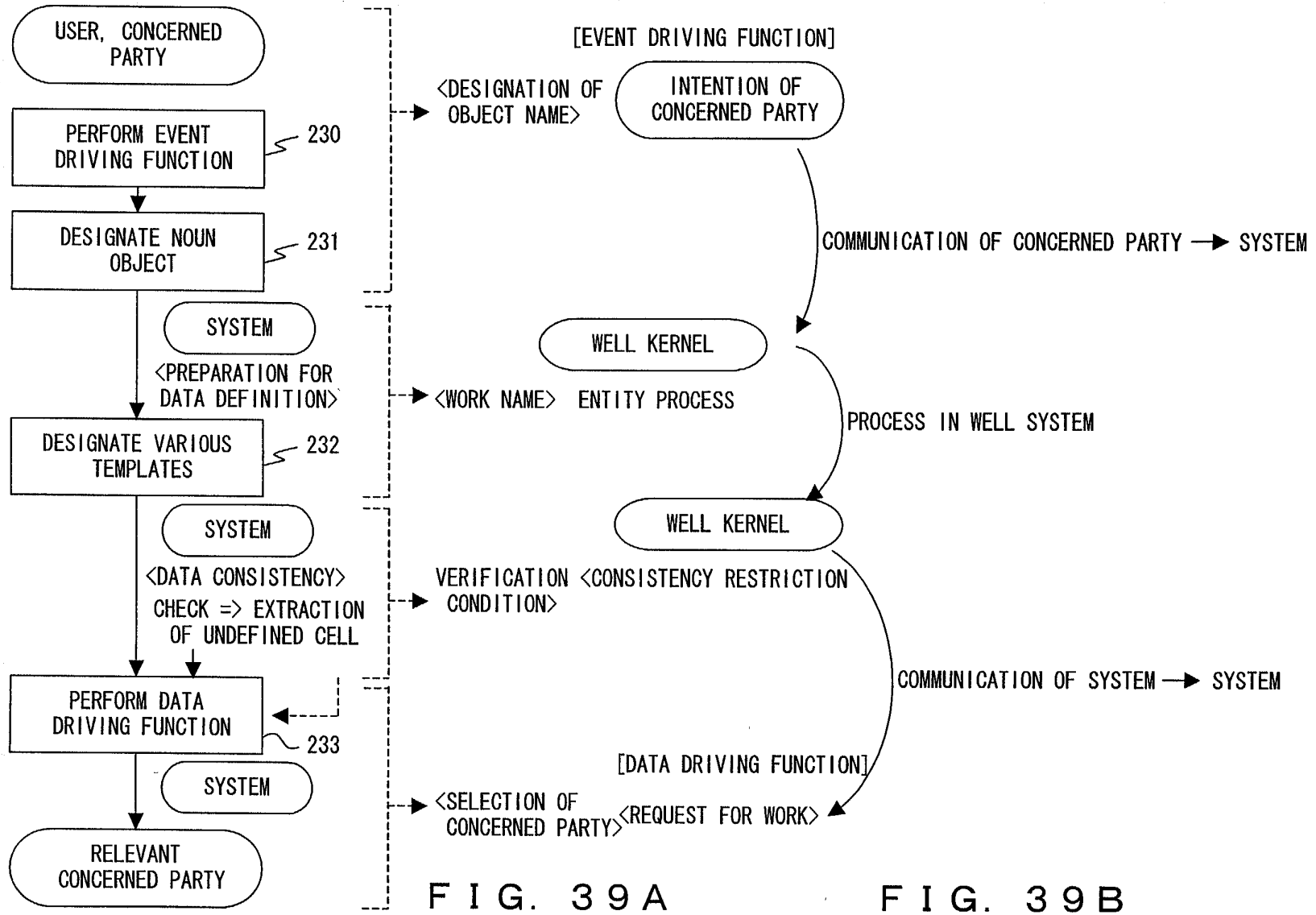


FIG. 39A FIG. 39B

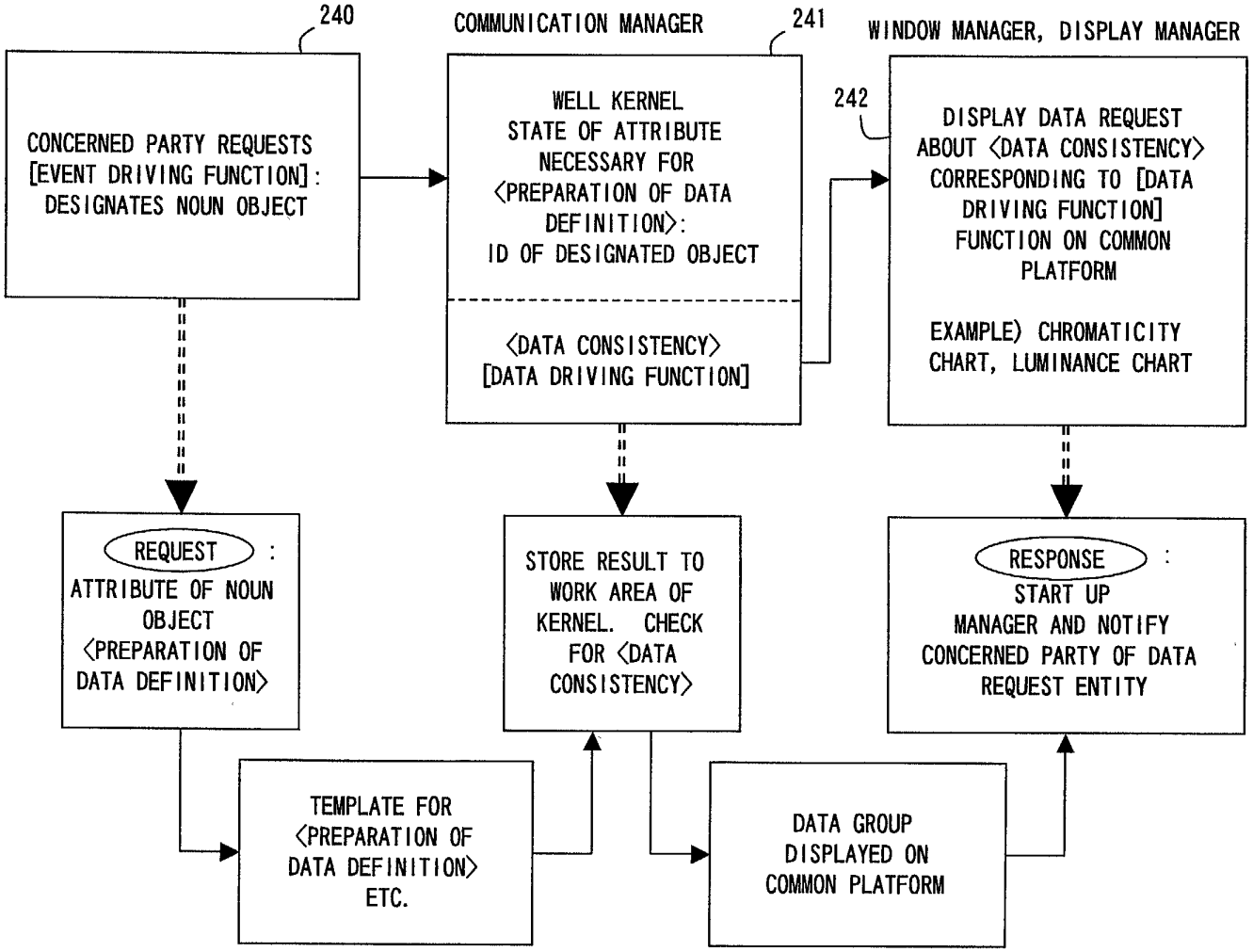

240
COMMUNICATION MANAGER
241
WINDOW MANAGER, DISPLAY MANAGER
242
CONCERNED PARTY REQUESTS [EVENT DRIVING FUNCTION]: DESIGNATES NOUN OBJECT
WELL KERNEL STATE OF ATTRIBUTE NECESSARY FOR 〈PREPARATION OF DATA DEFINITION〉: ID OF DESIGNATED OBJECT
〈DATA CONSISTENCY〉 [DATA DRIVING FUNCTION]
DISPLAY DATA REQUEST ABOUT 〈DATA CONSISTENCY〉 CORRESPONDING TO [DATA DRIVING FUNCTION] FUNCTION ON COMMON PLATFORM
EXAMPLE) CHROMATICITY CHART, LUMINANCE CHART
REQUEST : ATTRIBUTE OF NOUN OBJECT 〈PREPARATION OF DATA DEFINITION〉
STORE RESULT TO WORK AREA OF KERNEL. CHECK FOR 〈DATA CONSISTENCY〉
RESPONSE : START UP MANAGER AND NOTIFY CONCERNED PARTY OF DATA REQUEST ENTITY
TEMPLATE FOR 〈PREPARATION OF DATA DEFINITION〉 ETC.
DATA GROUP DISPLAYED ON COMMON PLATFORM

FIG. 40

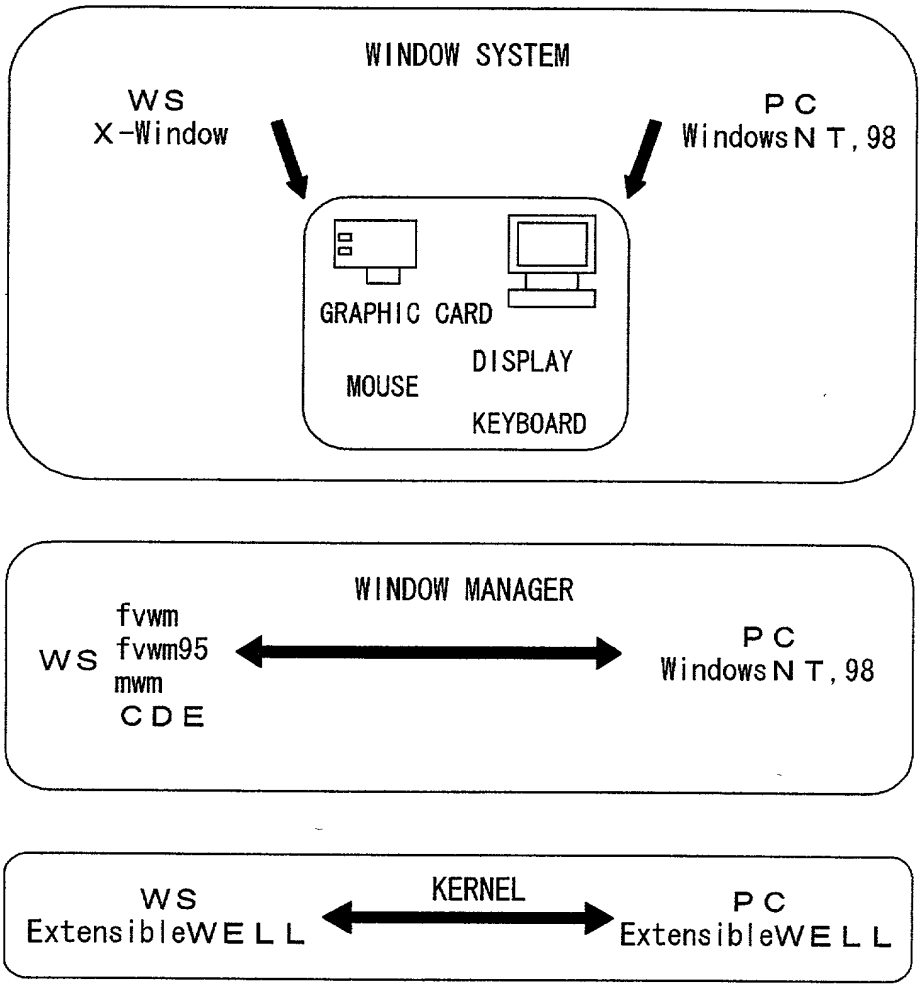

WINDOW SYSTEM
WS
X-Window
PC
WindowsNT,98
GRAPHIC CARD
DISPLAY
MOUSE
KEYBOARD
WINDOW MANAGER
WS
fvwm
fvwm95
mwm
CDE
PC
WindowsNT,98
WS
ExtensibleWELL
KERNEL
PC
ExtensibleWELL

FIG. 41

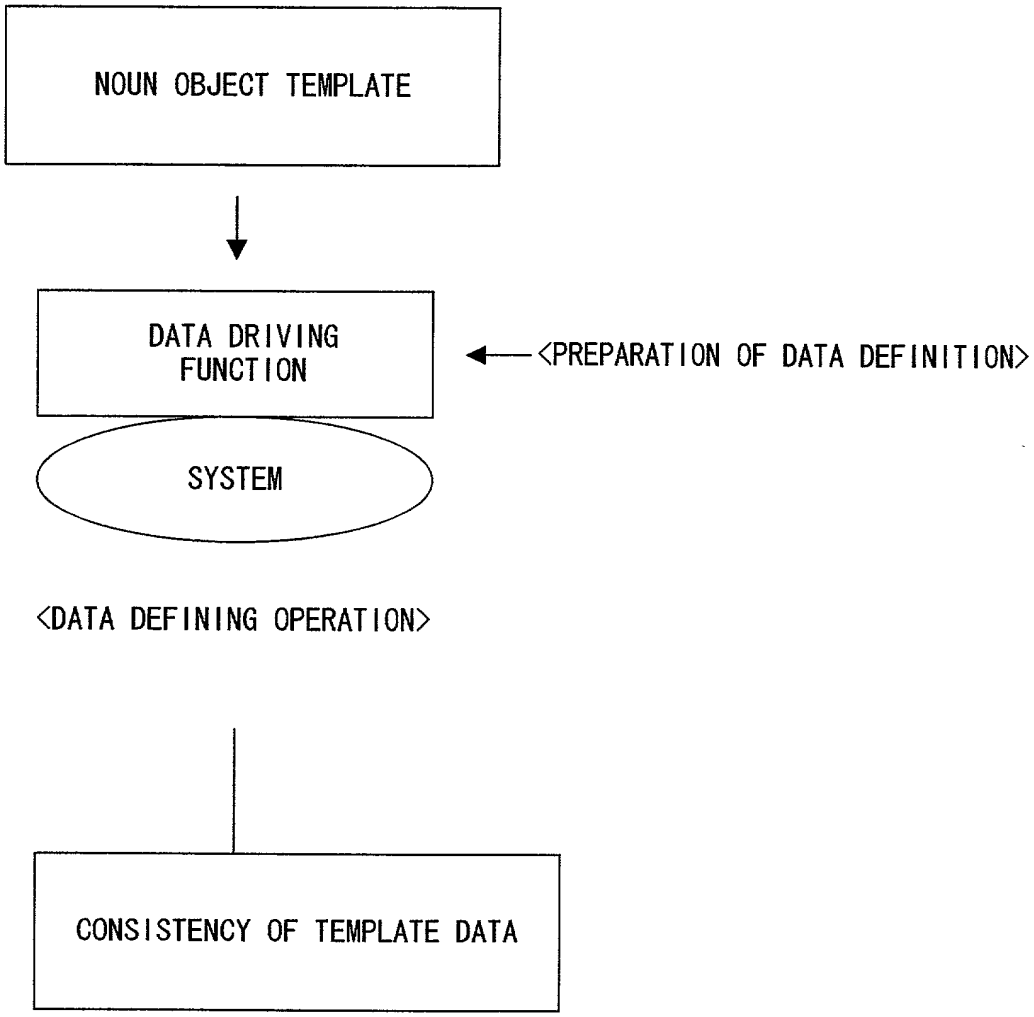

NOUN OBJECT TEMPLATE
DATA DRIVING FUNCTION
<PREPARATION OF DATA DEFINITION>
SYSTEM
<DATA DEFINING OPERATION>
CONSISTENCY OF TEMPLATE DATA

FIG. 42

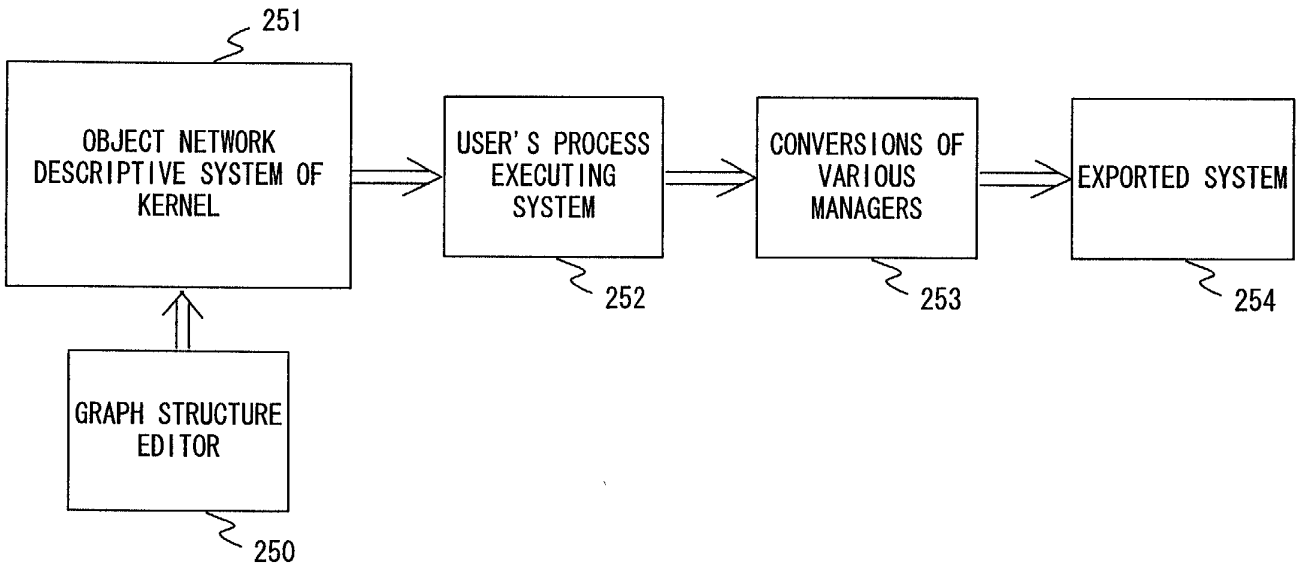

251
OBJECT NETWORK DESCRIPTIVE SYSTEM OF KERNEL
USER'S PROCESS EXECUTING SYSTEM
CONVERSIONS OF VARIOUS MANAGERS
EXPORTED SYSTEM
252
253
254
GRAPH STRUCTURE EDITOR
250

FIG. 43

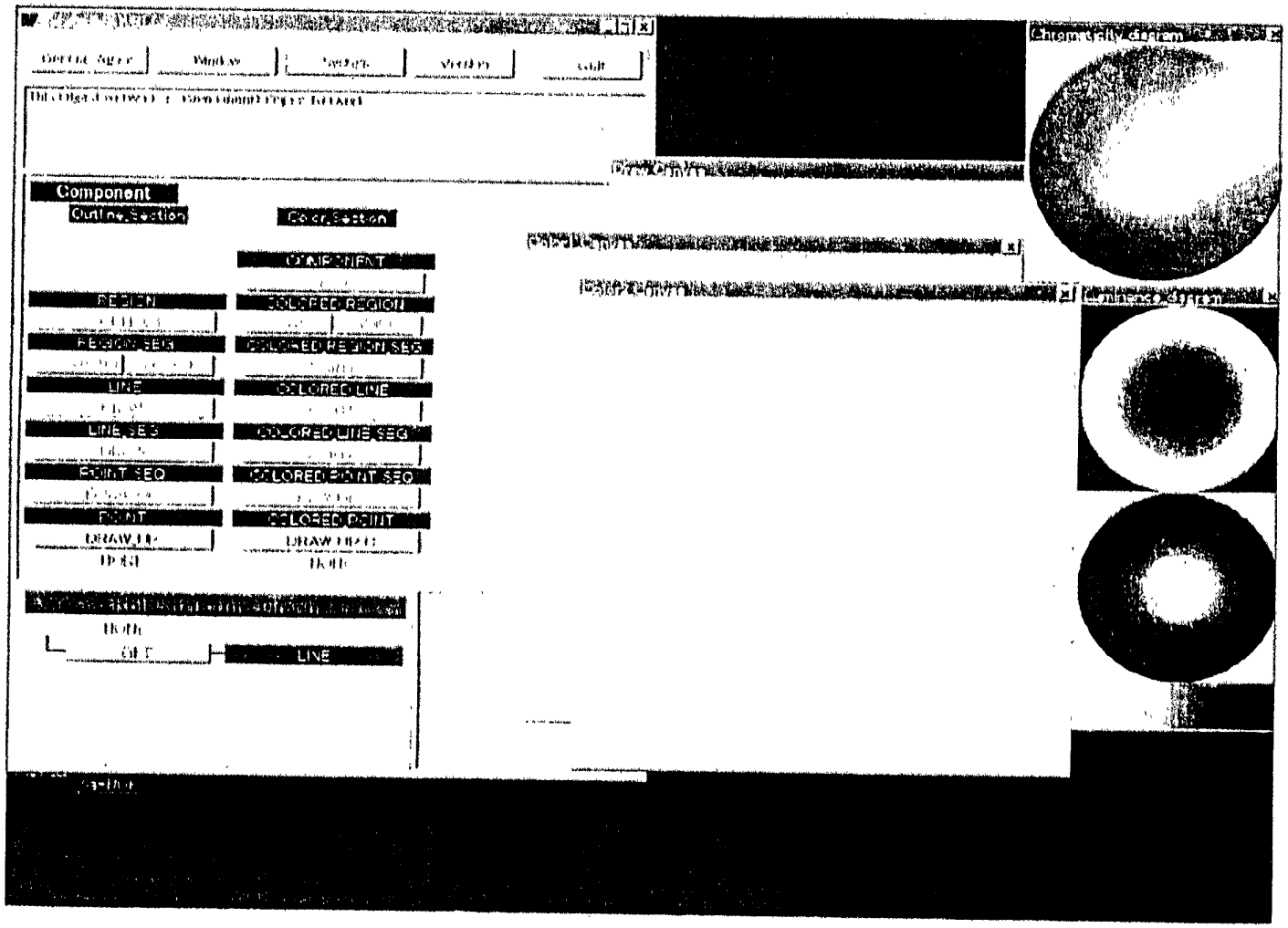

Component
Outline Section
Color Section
REGION
REGION SEQ
LINE
LINE SEQ
POINT SEQ
POINT
COLORED REGION
COLORED REGION SEQ
COLORED LINE
COLORED LINE SEQ
COLORED POINT SEQ
COLORED POINT
LINE

FIG. 44

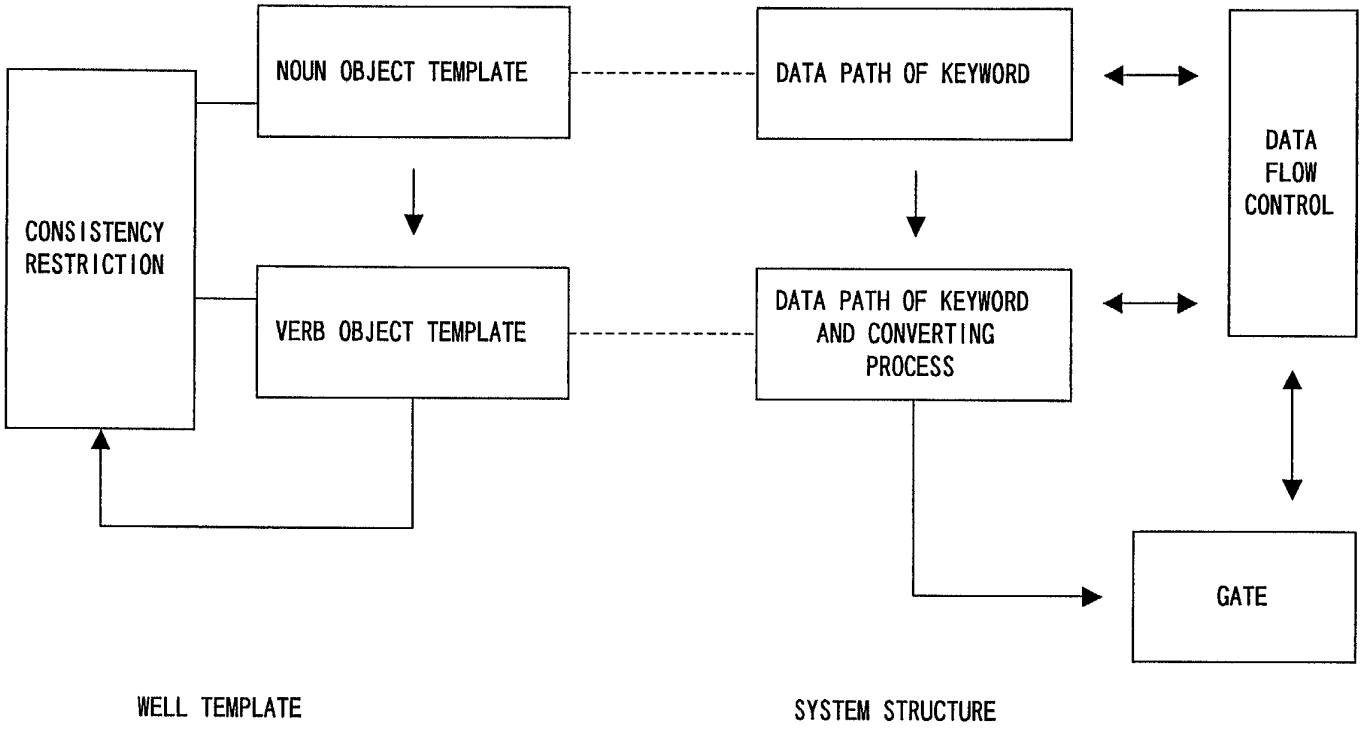

NOUN OBJECT TEMPLATE
DATA PATH OF KEYWORD
DATA FLOW CONTROL
CONSISTENCY RESTRICTION
VERB OBJECT TEMPLATE
DATA PATH OF KEYWORD AND CONVERTING PROCESS
GATE
WELL TEMPLATE
SYSTEM STRUCTURE

FIG. 45

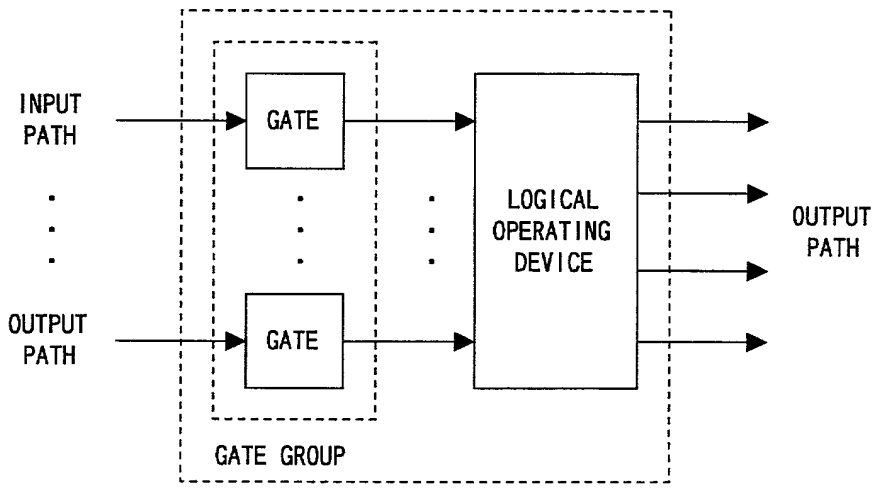

INPUT
PATH
OUTPUT
PATH
GATE
GATE
LOGICAL
OPERATING
DEVICE
OUTPUT
PATH
GATE GROUP

FIG. 46

PATENT APPLICATION

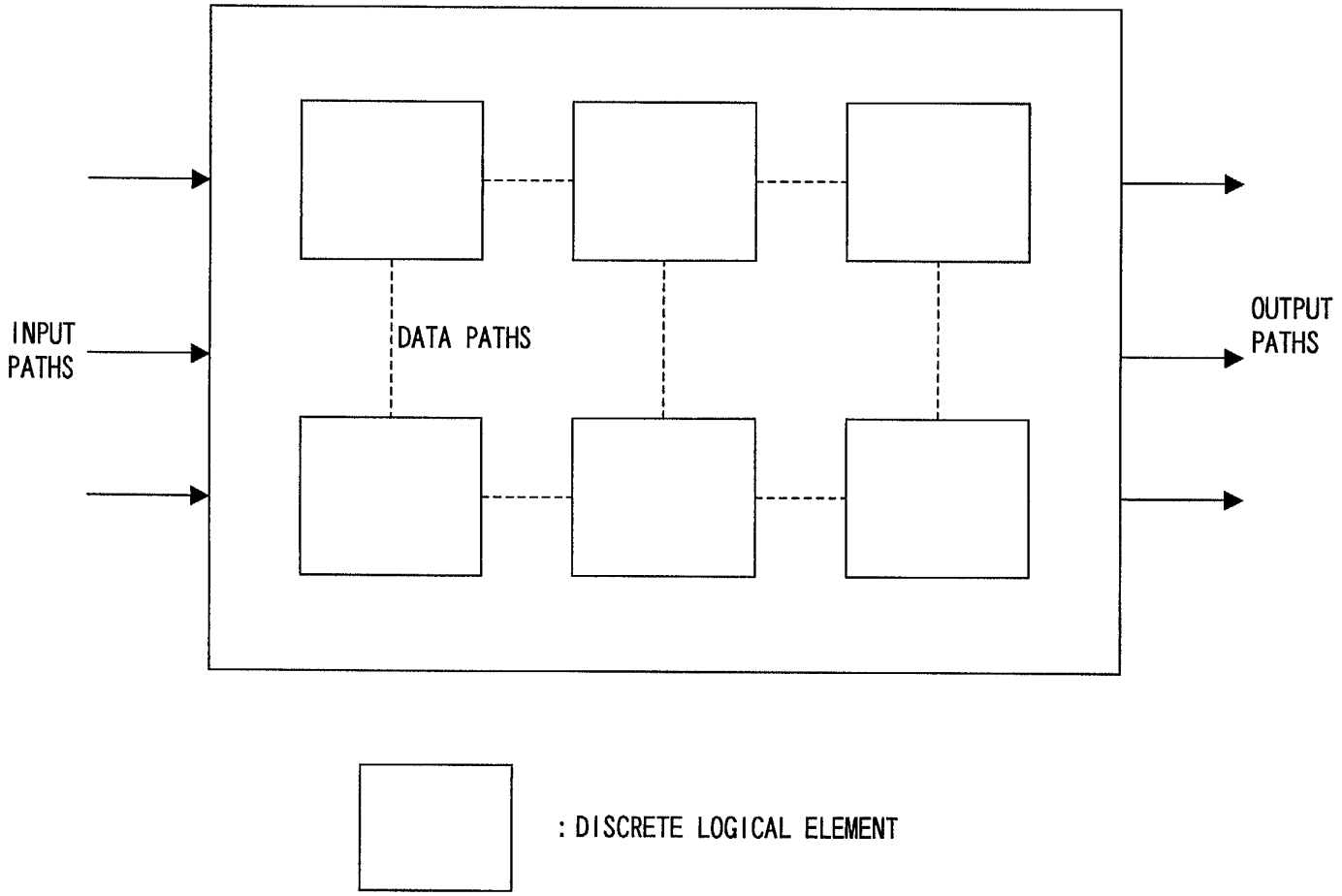


FIG. 47

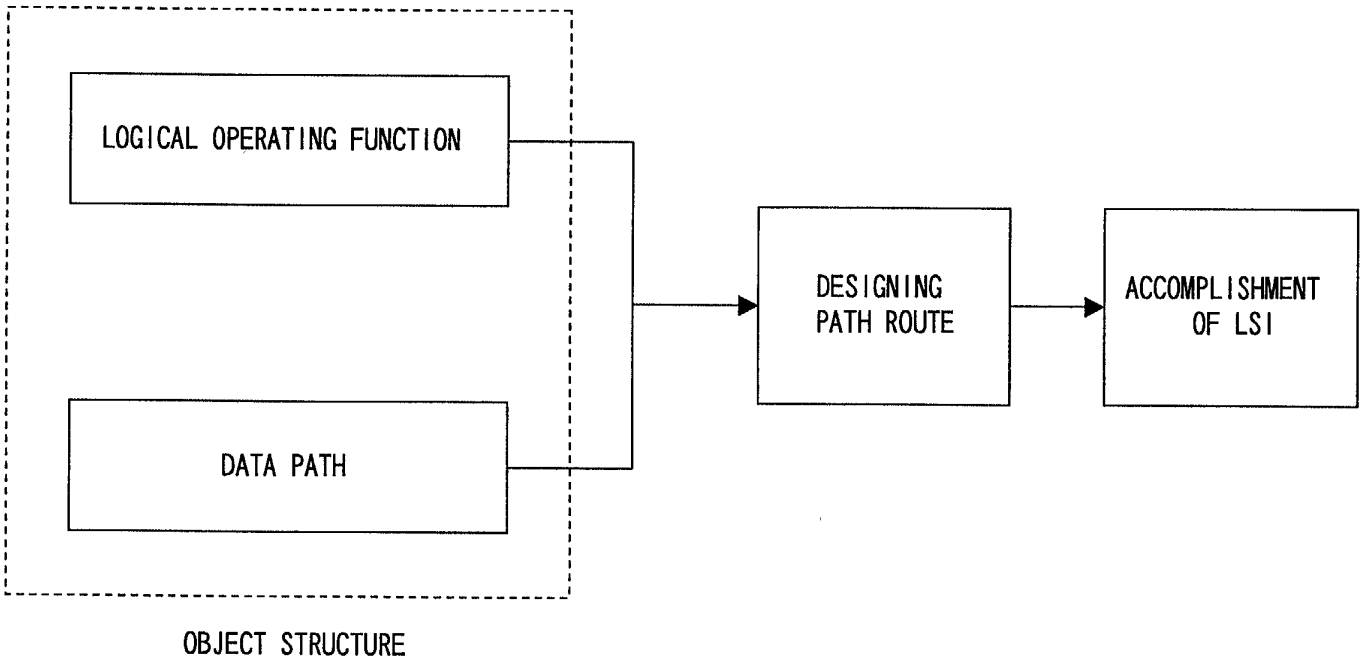

LOGICAL OPERATING FUNCTION
DATA PATH
OBJECT STRUCTURE
DESIGNING
PATH ROUTE
ACCOMPLISHMENT
OF LSI

FIG. 48

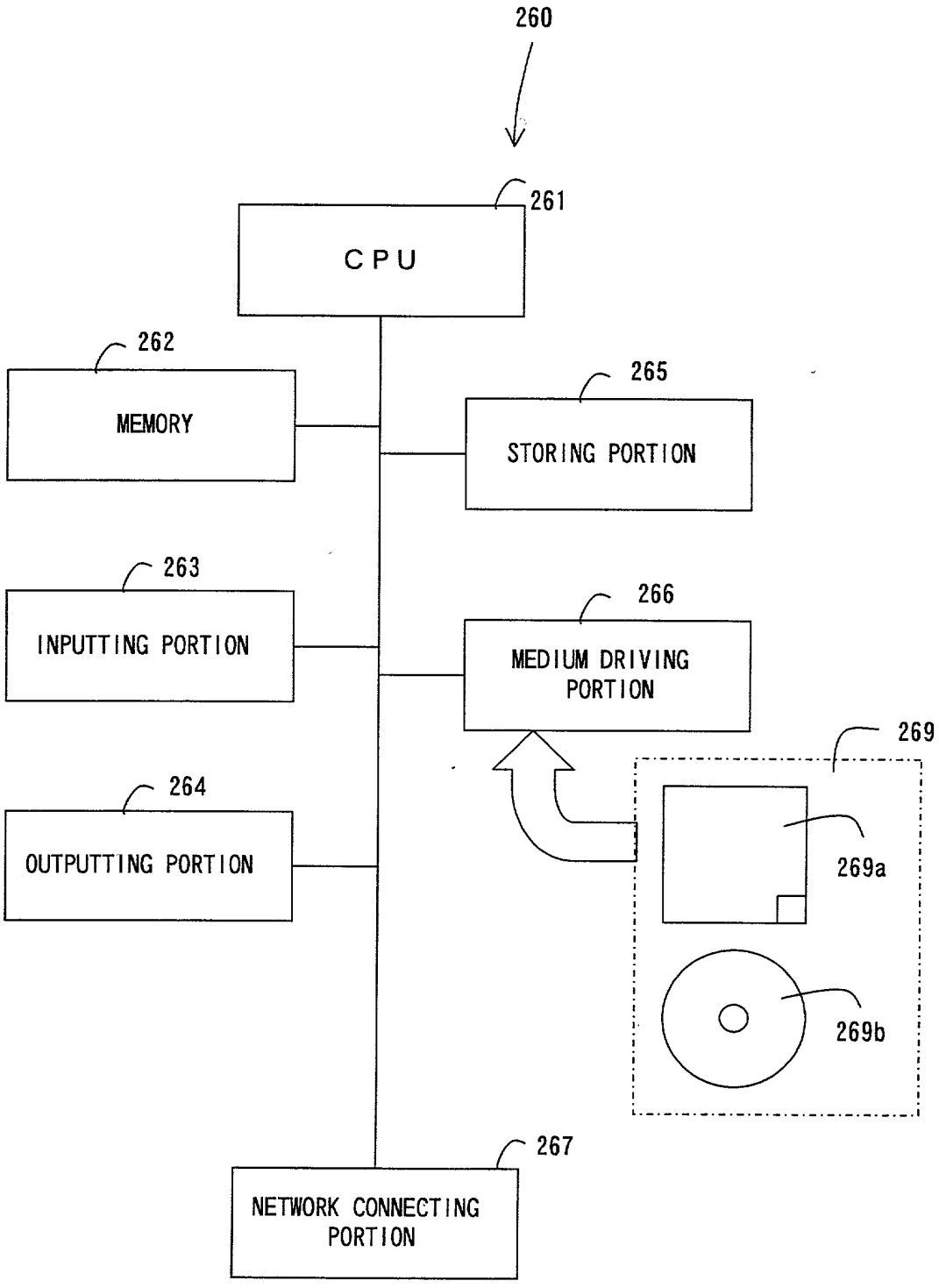

260
261
CPU
262
MEMORY
265
STORING PORTION
263
INPUTTING PORTION
266
MEDIUM DRIVING PORTION
269
269a
269b
264
OUTPUTTING PORTION
267
NETWORK CONNECTING PORTION

FIG. 49